

Figure 1

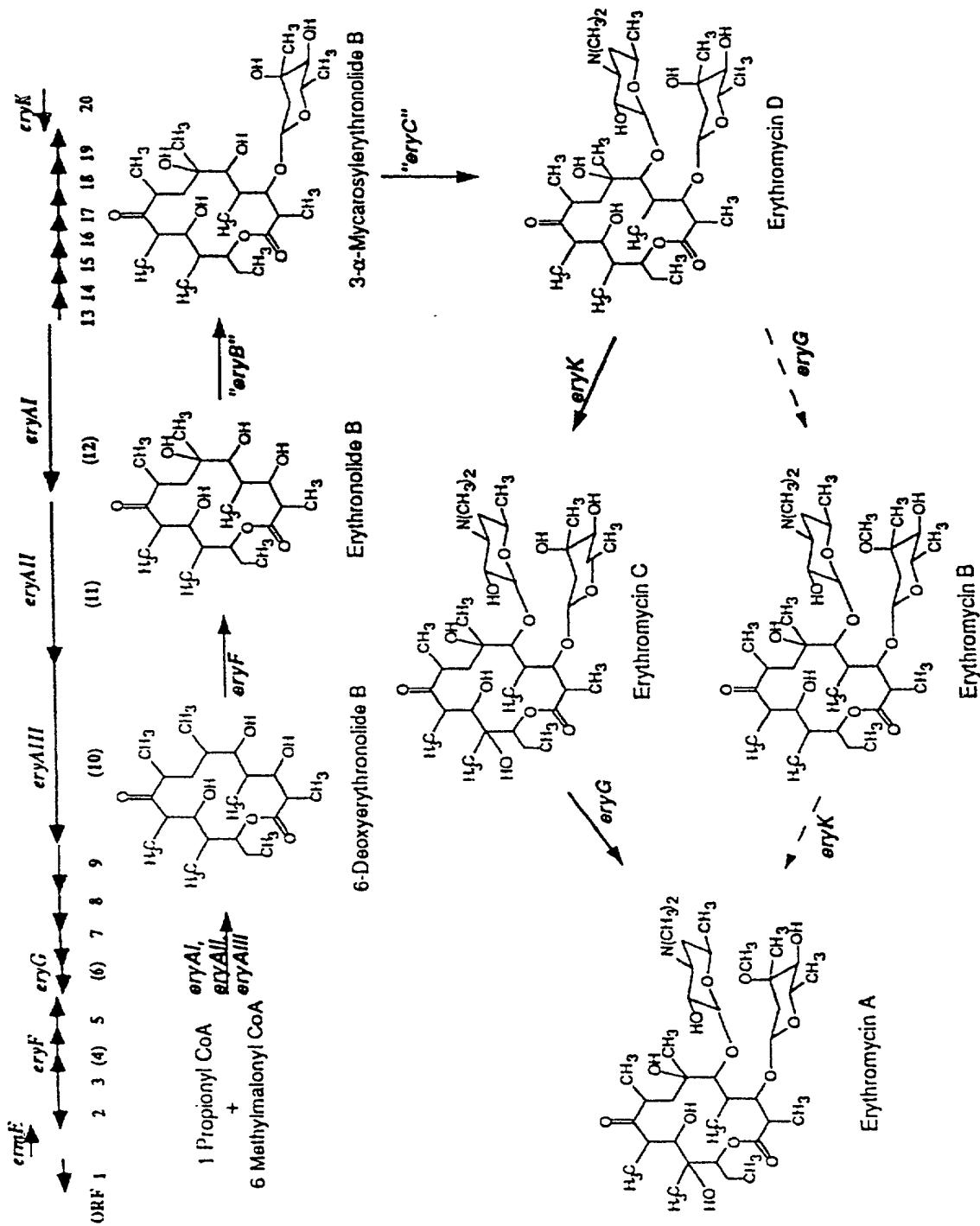


Figure 2

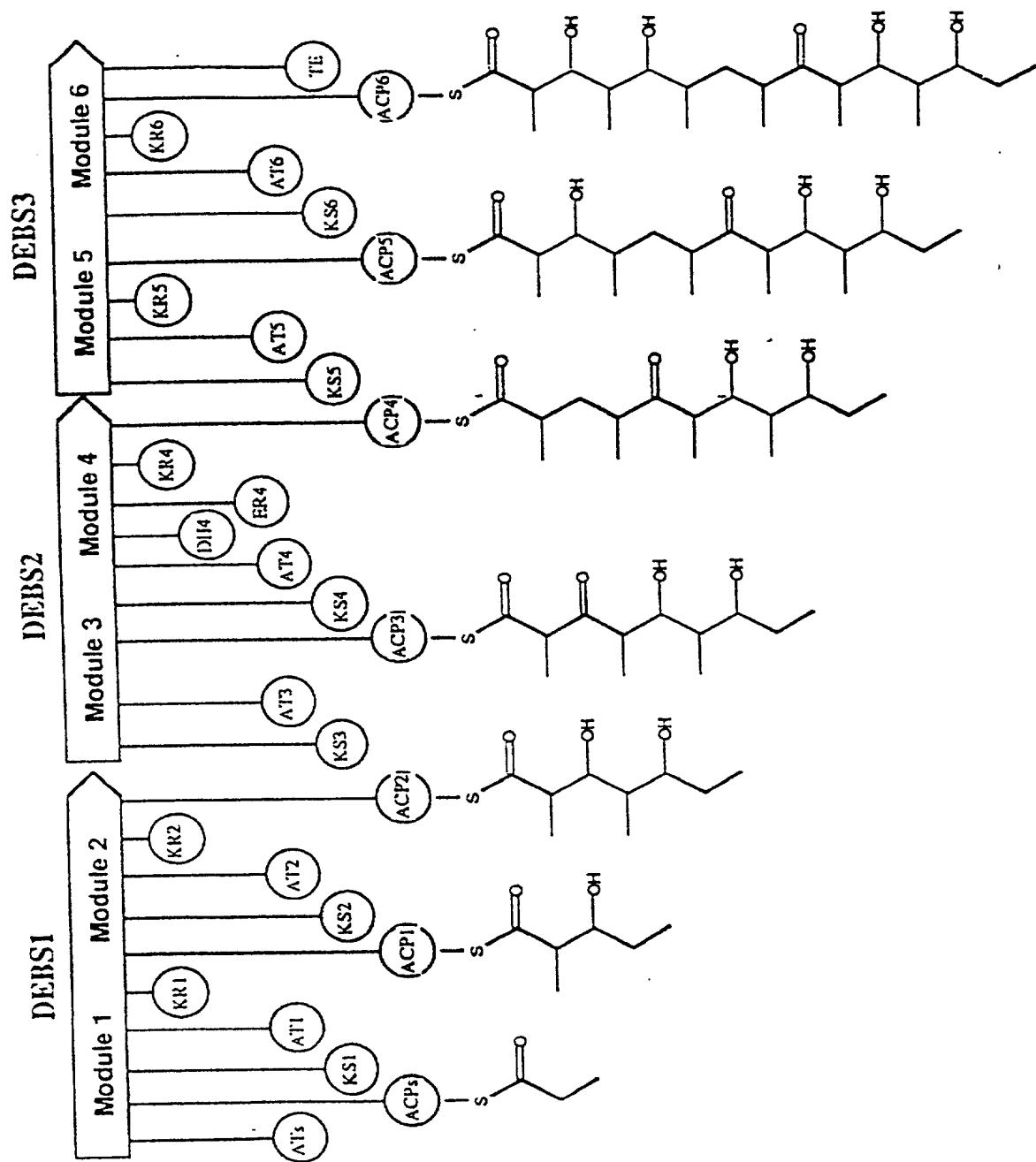


Figure 3

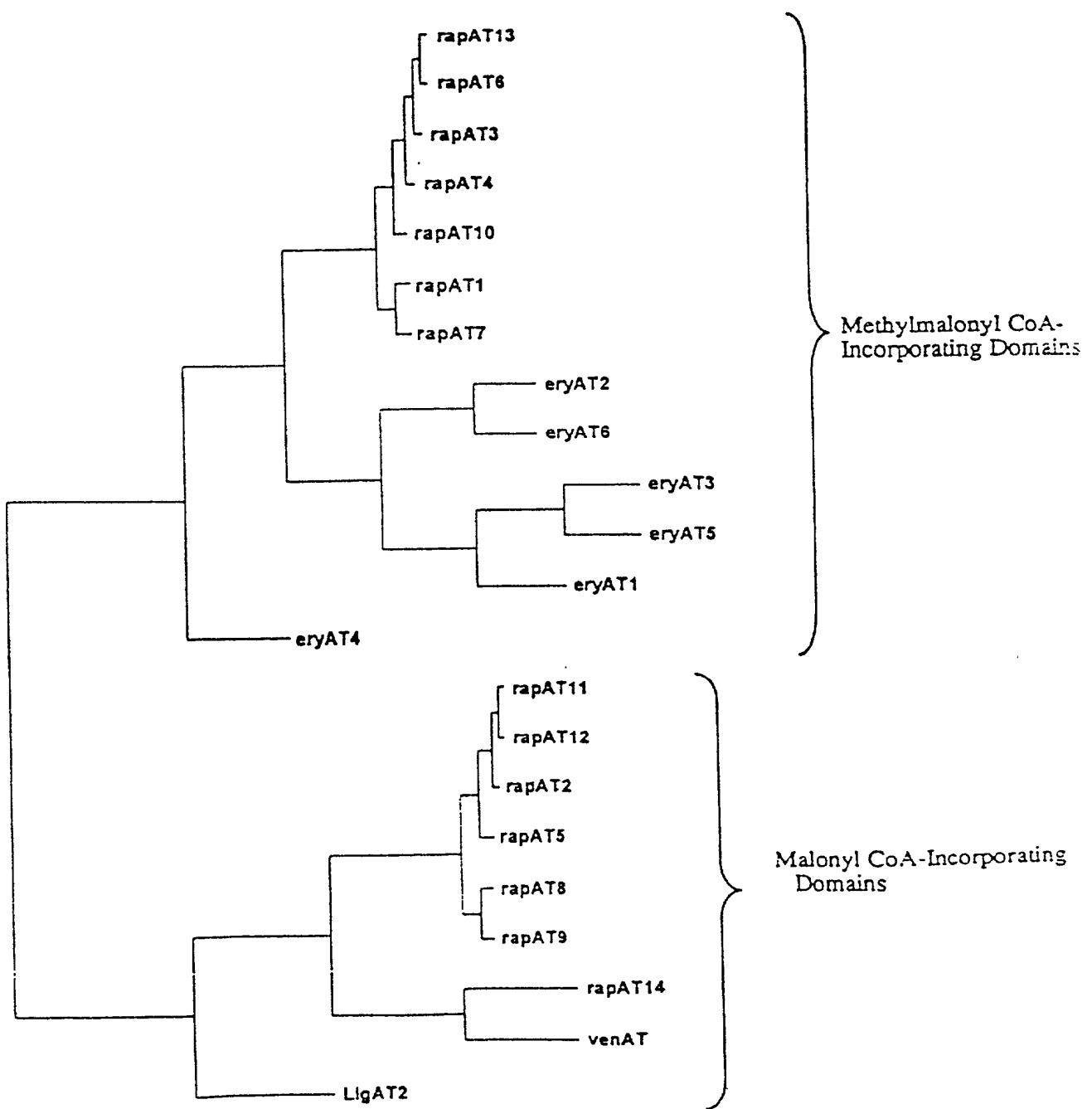


Figure 4a

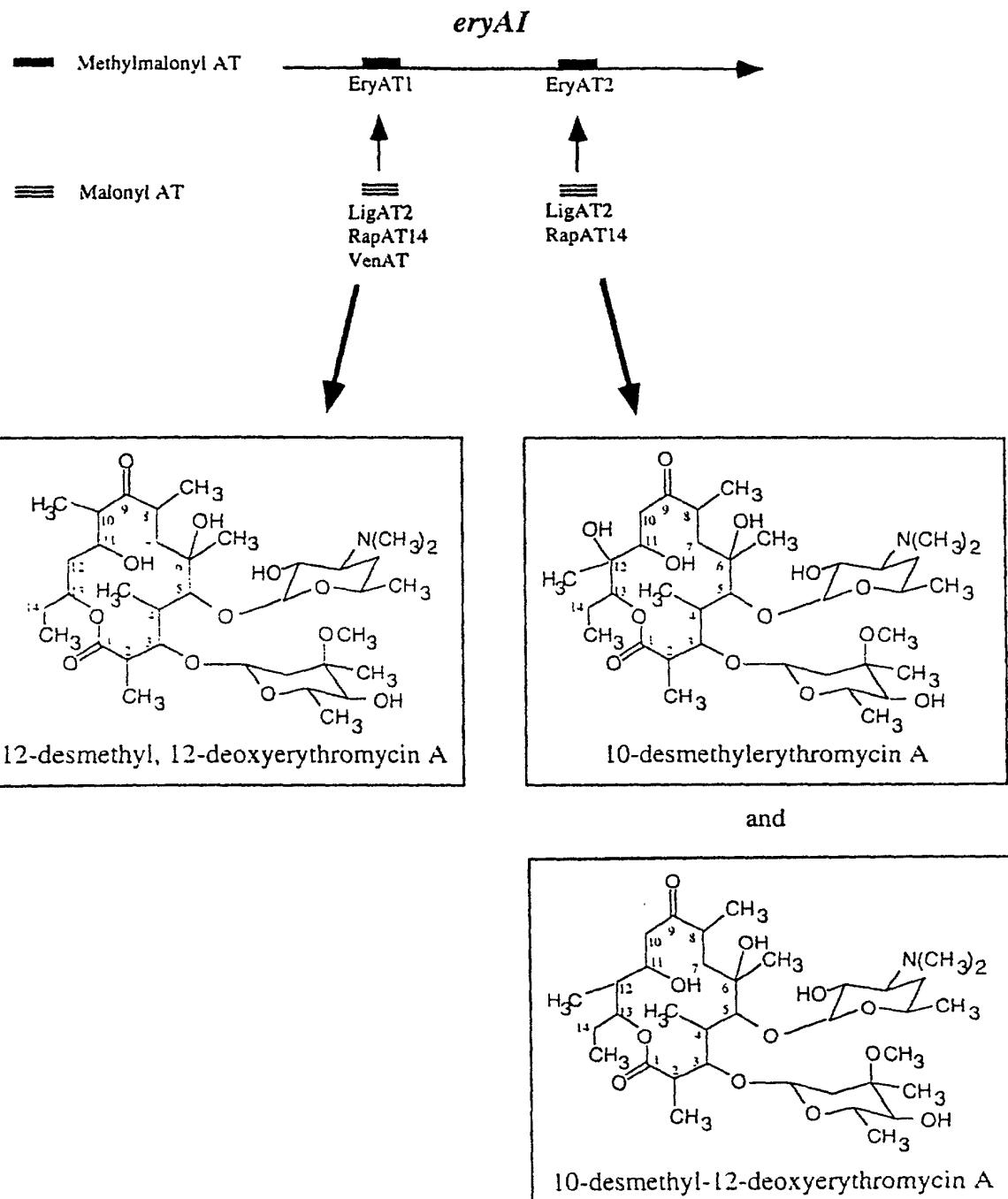


Figure 4b

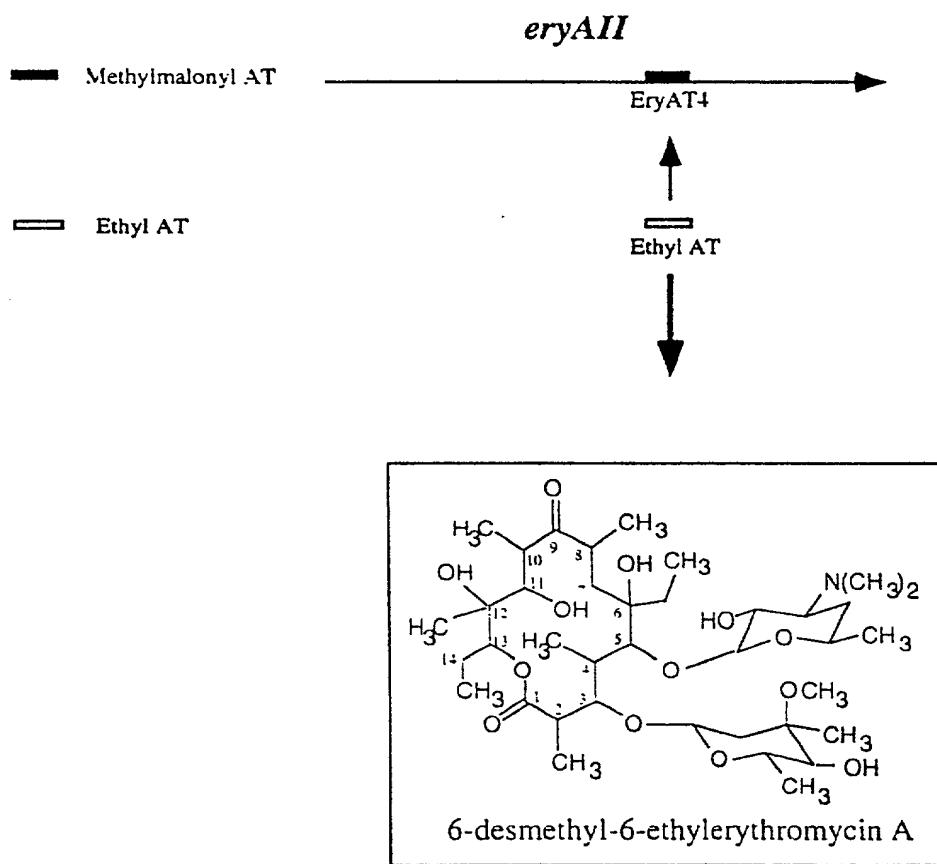


Figure 5

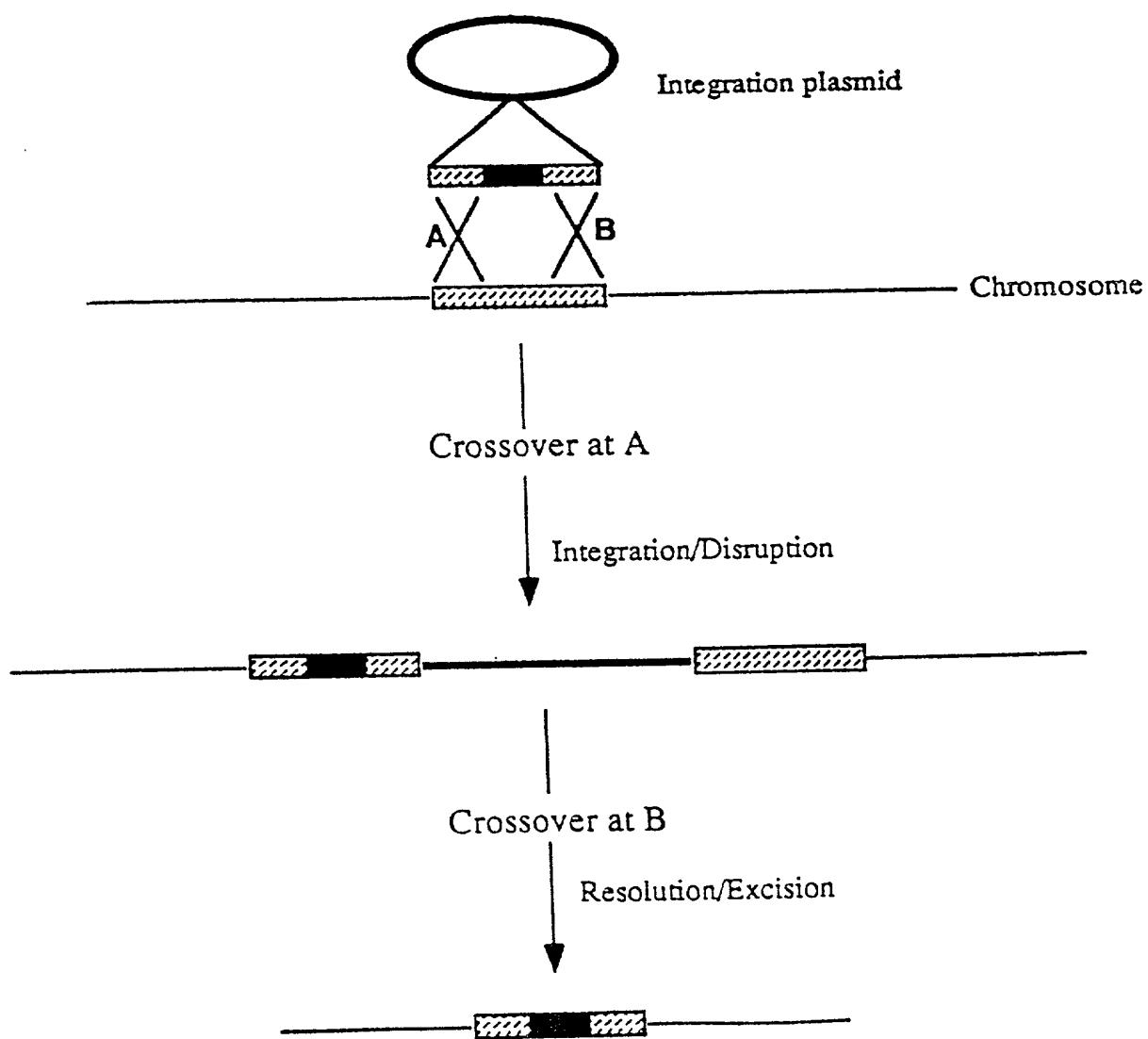


Figure 6

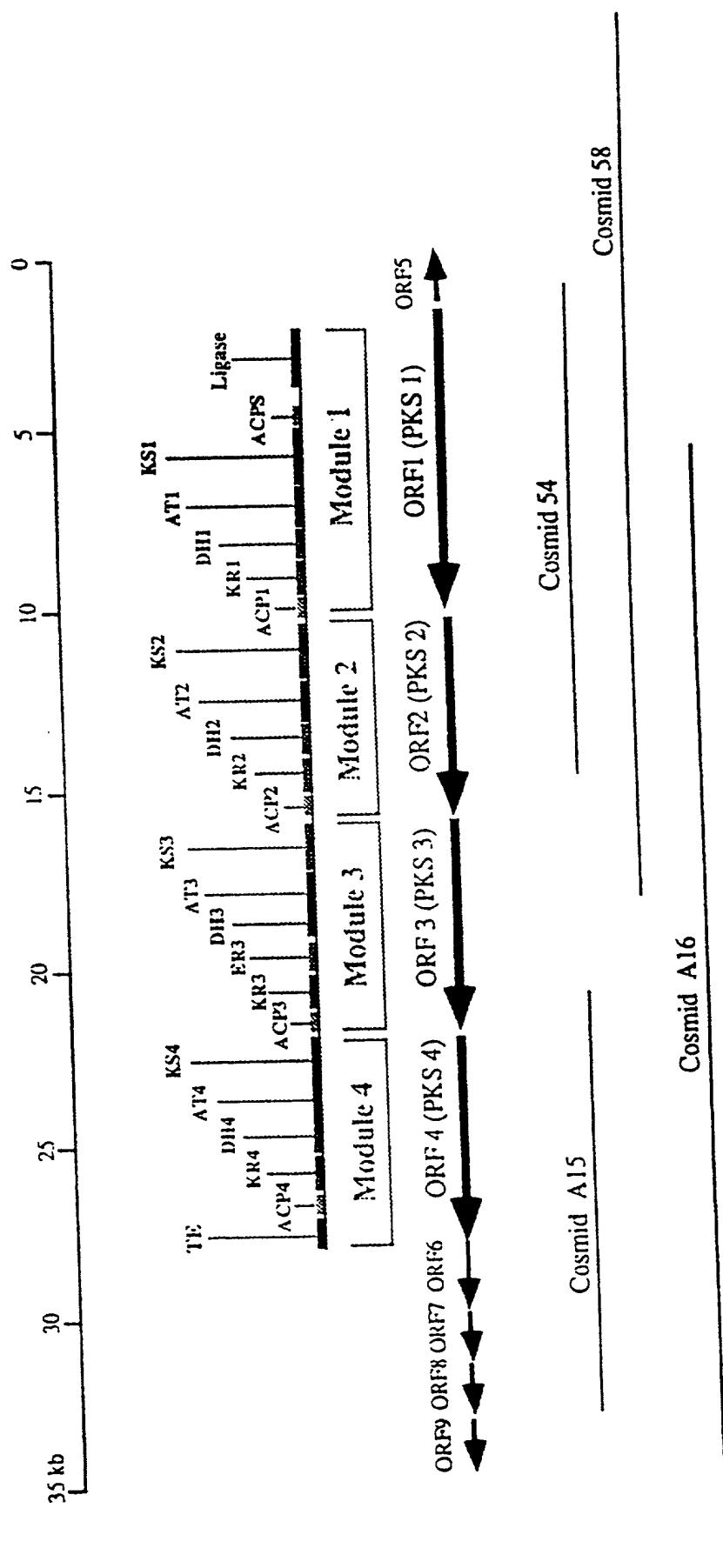


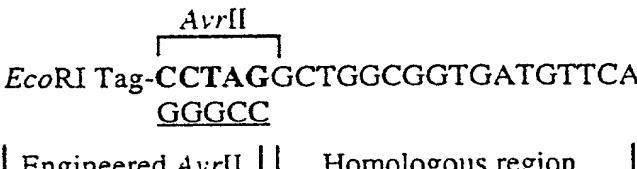
Figure 7

GGGCCGCTGGCGGTGATGTTACCGGACAGGGCTCCAAACGCCCGGCATGGGACGACAG	60
G P L A V M F T G Q G S Q R P G M G R Q	20
TTGTACGAGCACTTCCCCGTCTCGCCCAGGCACTGGACGAGGTCTCGCACTGCCACC	120
L Y E H F P V F A Q A L D E V F A L A T	40
CCCGGACTACGCGAGGTGATGTTGACCCCGACCAGGCCGAAACACTCCAACGCACCGAC	180
P G L R E V M F D P D Q A E T L Q R T D	60
CACGCCAGATGCCCTGTCGCTCGAAACGCCCTTACCGACTCTGGGAATCCTGG	240
H A Q I A L F A F E T A L Y R L W E S W	80
GGCCTGCGACCCGACATGGTCTGGGACACTCGGTGGAGAAATCACCGCAGCCACGTC	300
G L R P D M V C G H S V G E I T A A H V	100
TCCGGCACCCCTCACCCCTCCCCGACGCCGTCCACCTCGTCACCACACGCCGACCCCTCATG	360
S G T L T L P D A V H L V T T R G T L M	120
CAAAACCTGCCCGGCCATGCTGCCGTGCCACCGACCCCCAACCCCTCCAA	420
Q N L P P G G A M L A V A T D P H T L Q	140
CCCCACCTCGACAACCACCGACACCATCTCCATGCCGCCATCACGGCCCCACGCC	480
P H I D N H H D T I S I A A I N G P H A	160
ACCGTCTCTCCGGCGACCGCACCCCTCCACCATGCCACCCACTCACACCAAA	540
T V I S G D R T T L H H I A T Q L N T K	180
ACCAACTGGCTAACGTCAGCCACGCCCTCCACTCCCCCTCATGCAACCCATCCTCCAA	600
T N W L N V S H A F H S P L M Q P I L Q	200
CCCTTACCAACCACCCCTAACACCCCTCACCCACCAACACACACCCCTCATCAGC	660
P F T T L N T L T H H P P H T P L I S	220
ATGCTACCGCCACACCCACCCACCCGACACCAACCCACTGGACCCAGCACATACCGCA	720
M L T A T P T H P D T T H W T Q H I T A	240
CCCGTCCGCTACACCGACACCCCTCCACCAACCTCCACCAACGGCATCACCACCTACCTC	780
P V R Y T D T L H H L H H H G I T T Y L	260
GAAATGGCCCCGACACCAACCCCTCACCGCCCTGCCCGCACCAACCCCTCCCCACCAAC	840
E I G P D T T L T A L A R T T L P T T T	280
CACCTCATCCCCACCACCCGCCGCAACCACAAACGAAGTCCGCAGCACGAACGAGGGCGTTG	900
H L I P T T R R N H N E V R S T N E A L	300
GGCAGGGTGTTCAGCGTGGGCCACTCGGTGGACTGGCGGGCCCTCACTCCGACCGGGAGG	960
G R V F S V G H S V D W R A L T P T G R	320
CGTACCTCCCTGCCGACGTACCCCT	985
R T S L P T Y P	328

Figure 8

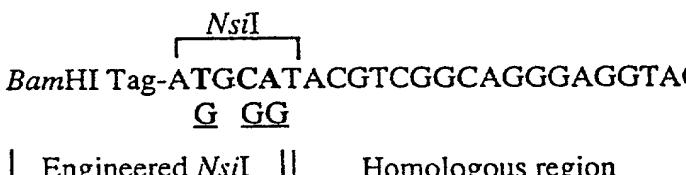
PCR oligos:

N-terminal Oligo: 5' *Eco*RI Tag-CCTAGGCTGGCGGTGATGTTCA-3'  
GGGCC



Engineered AvrII | Homologous region

C-terminal Oligo: 5' *Bam*HI Tag-ATGCATACGTGGCAGGGAGGTAC-3'  
G GG



Engineered *Nsi*I | Homologous region

PCR cloning:

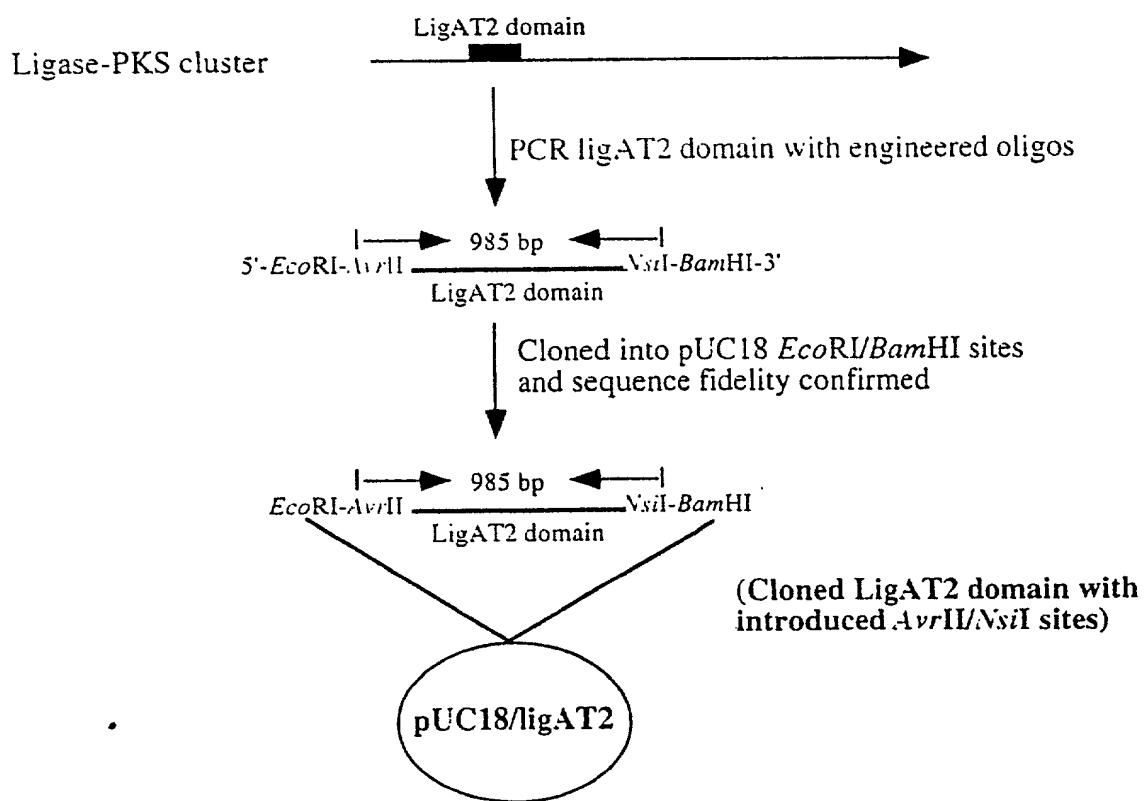


Figure 9

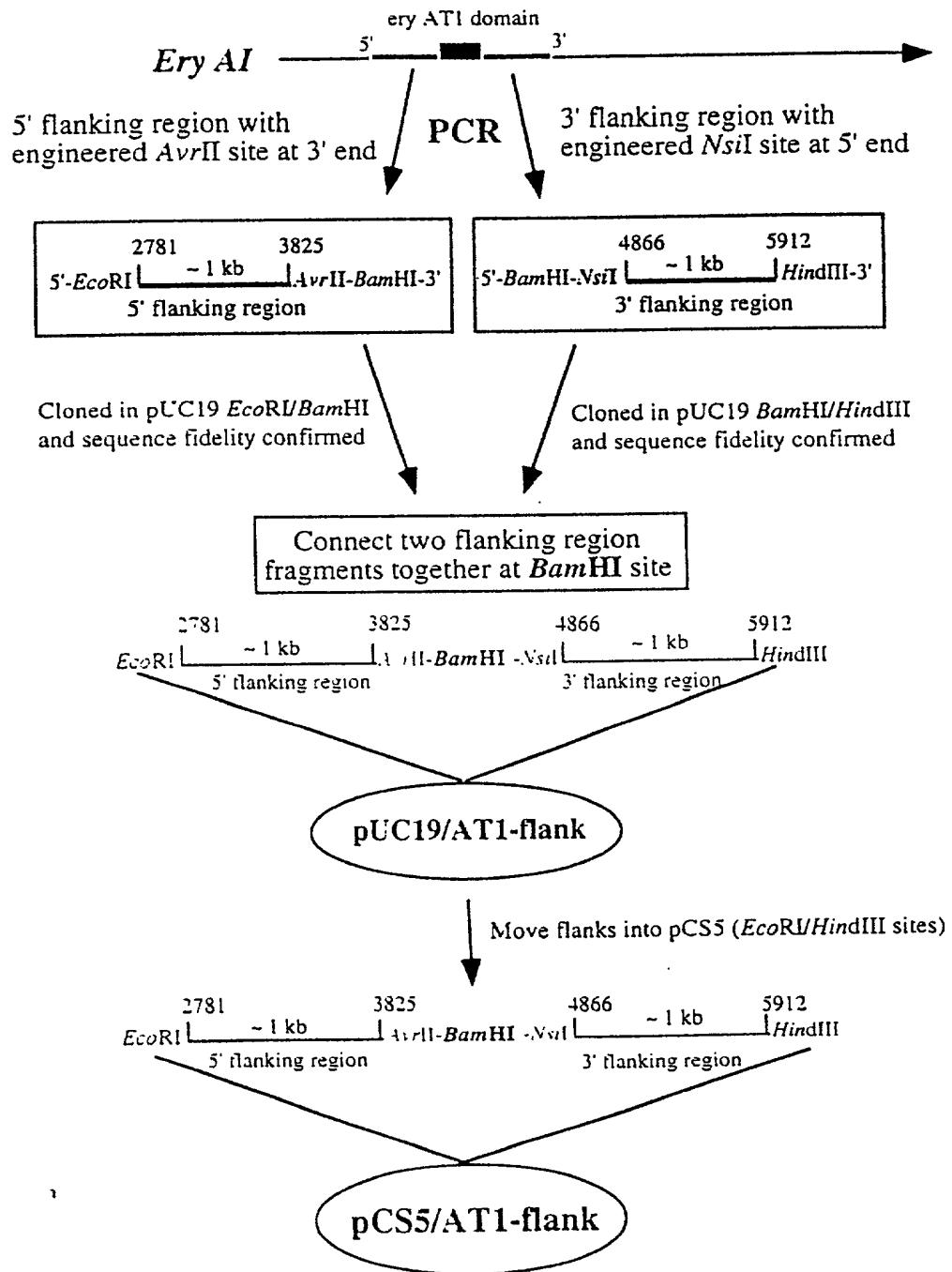


Figure 10

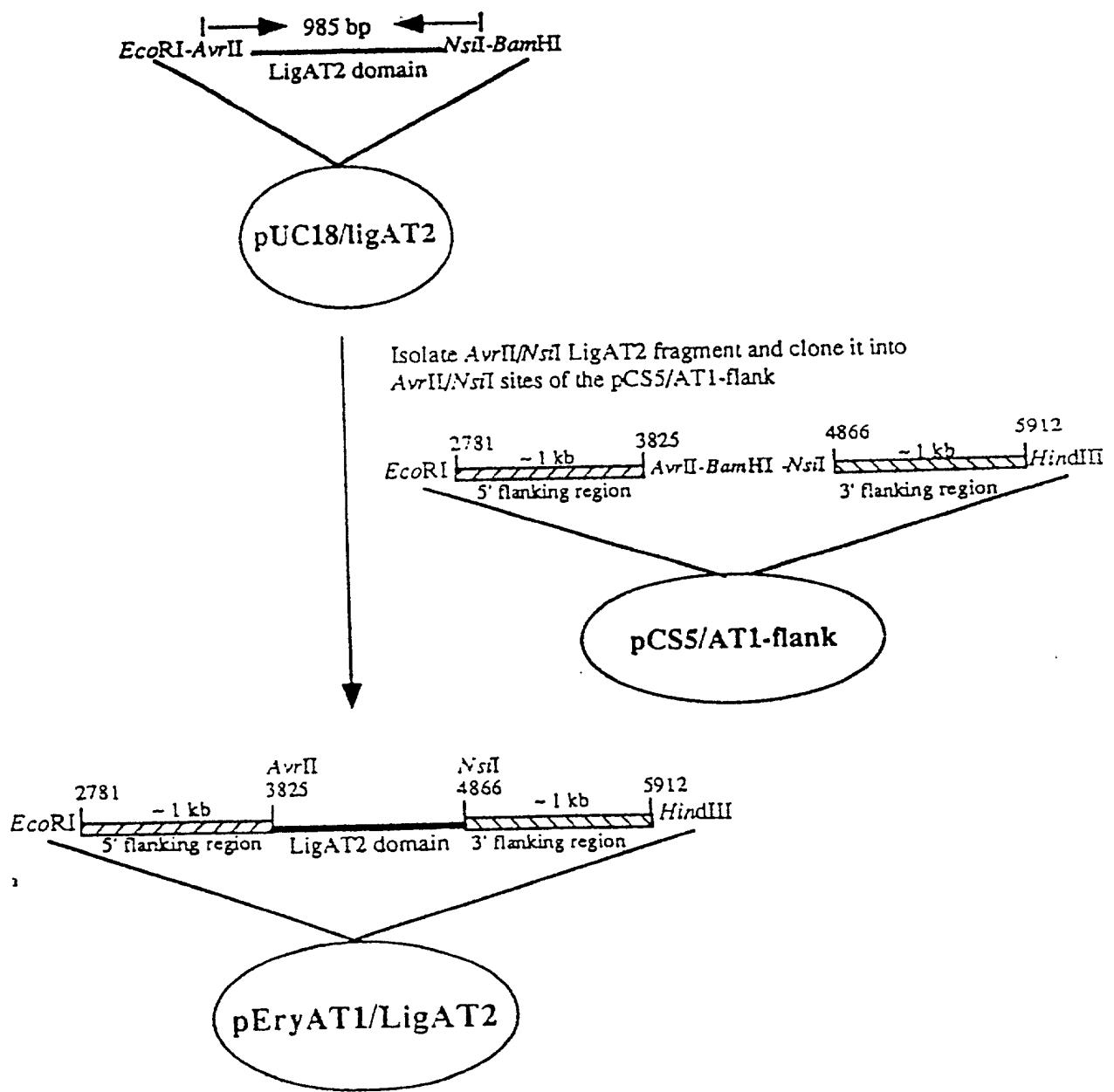


Figure 11

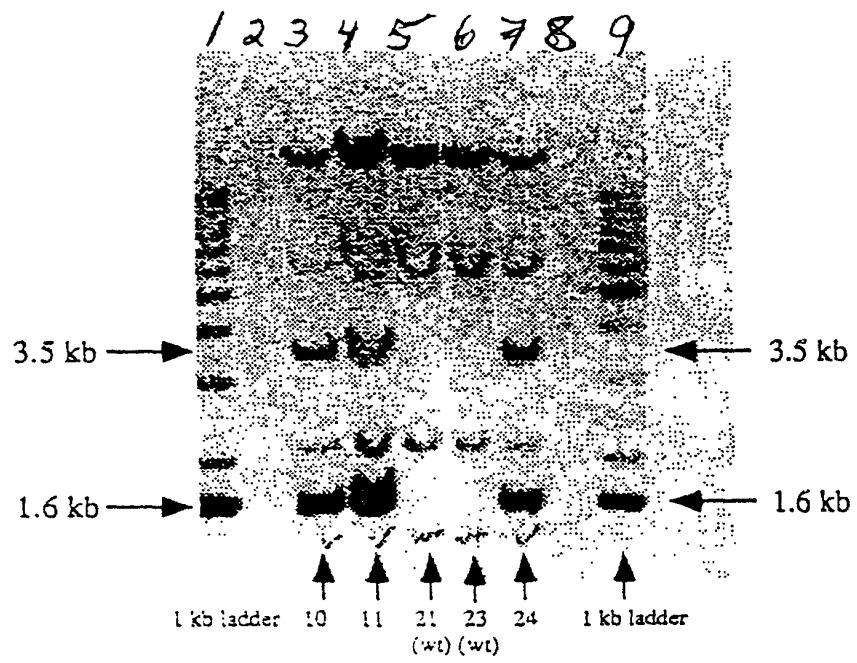


Figure 12

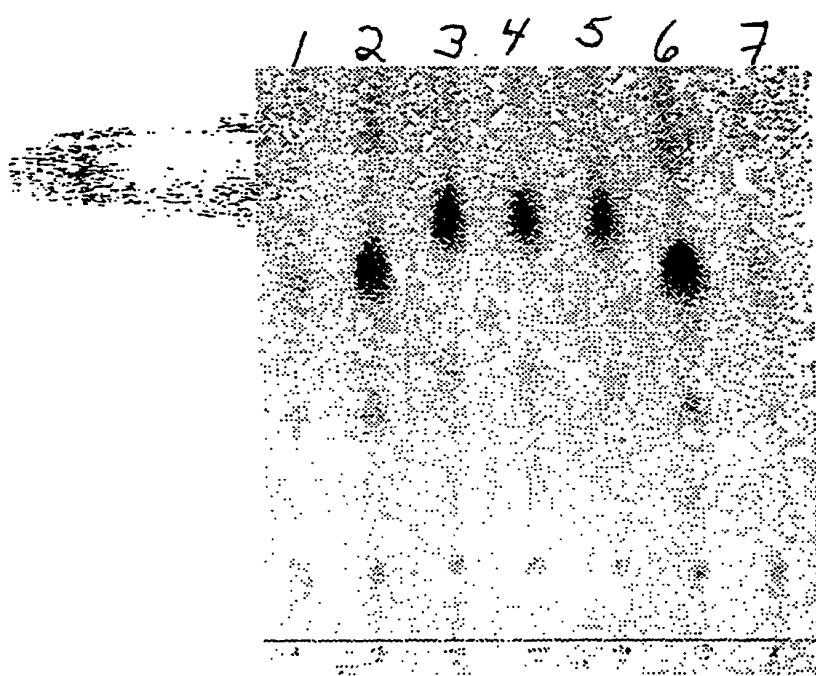


Figure 13

Construction of eryAT2 flanking regions in pCS5

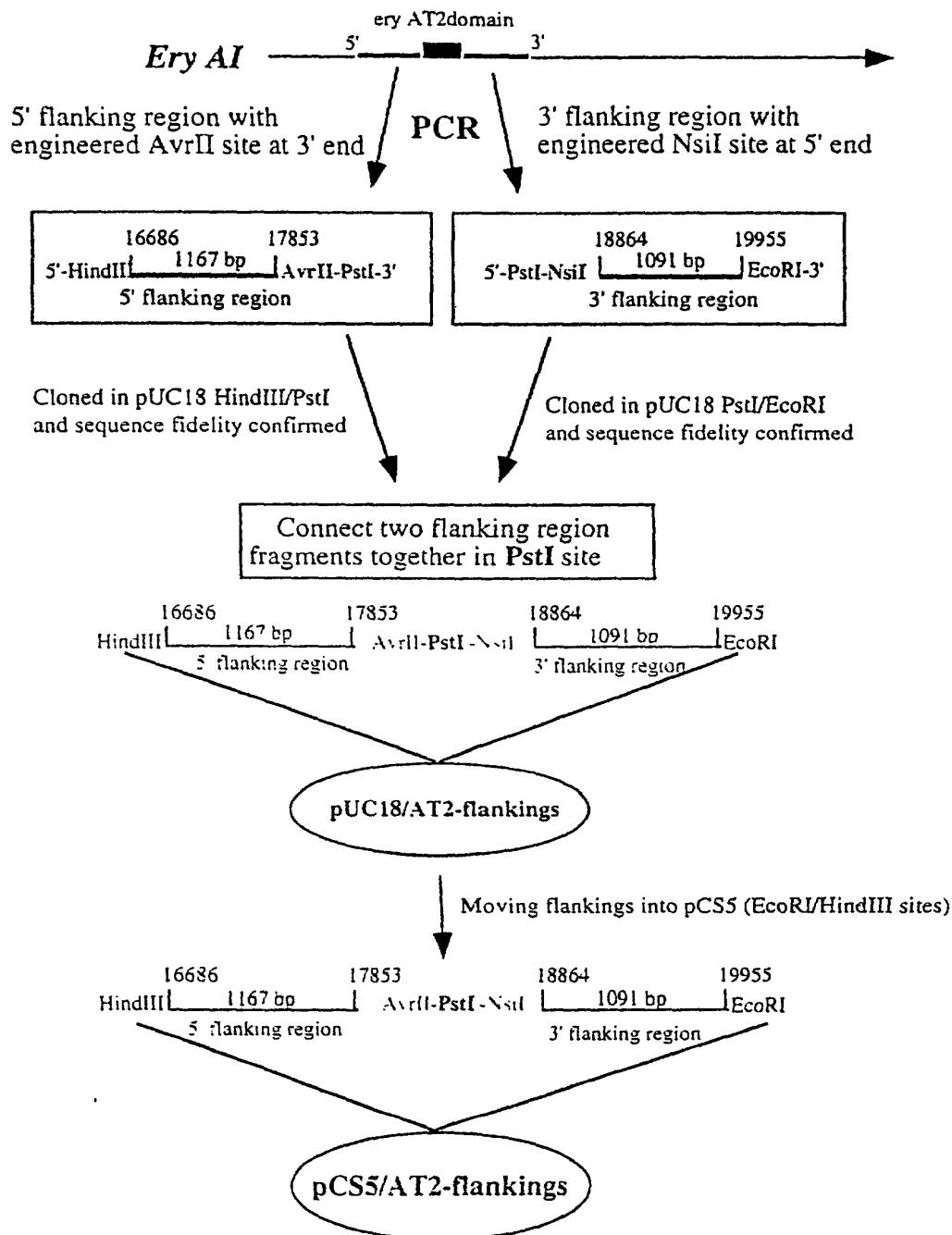


Figure 14

Scheme for Construction of pEryAT2/LigAT2 Integration Plasmid

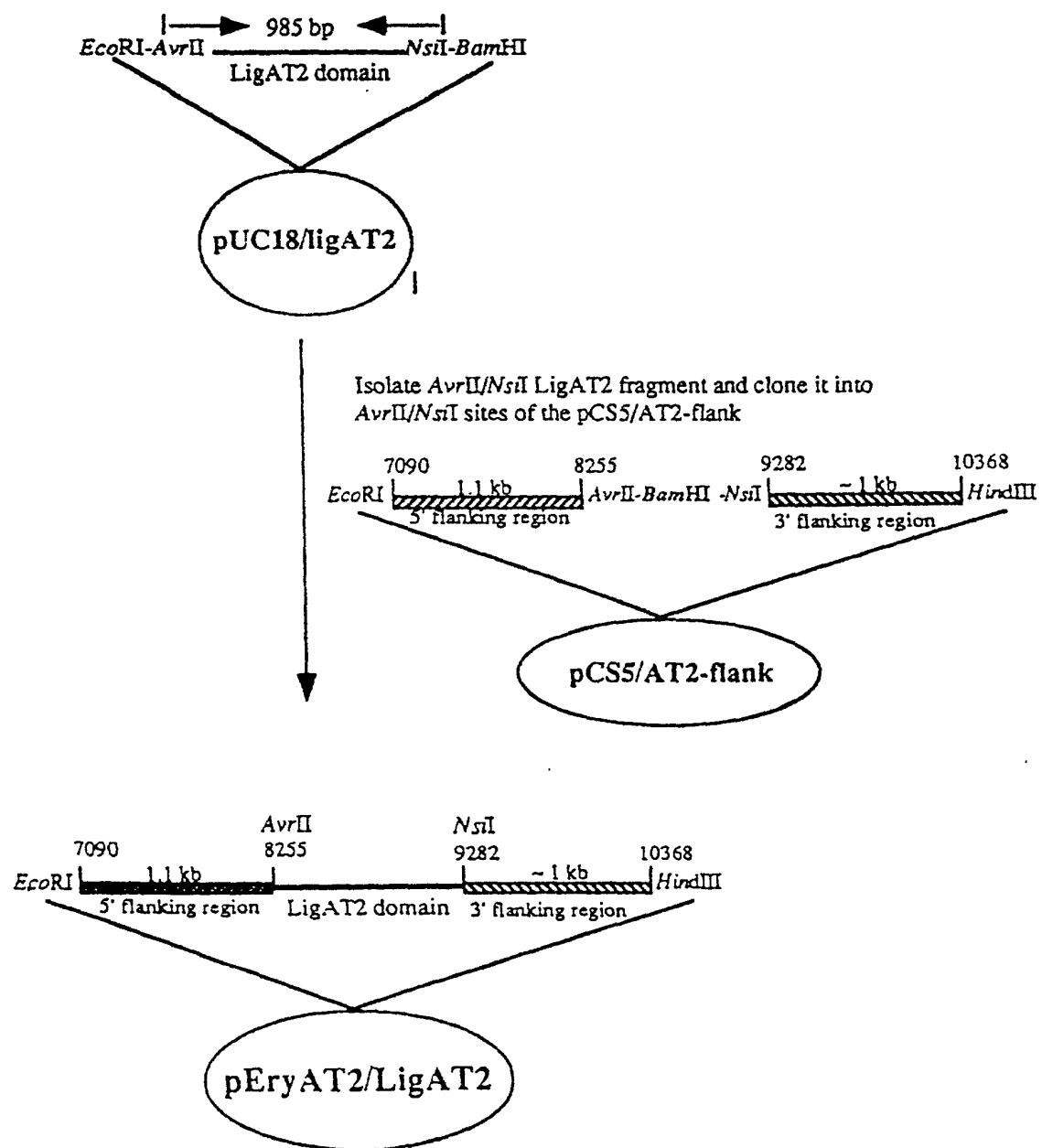


Figure 15

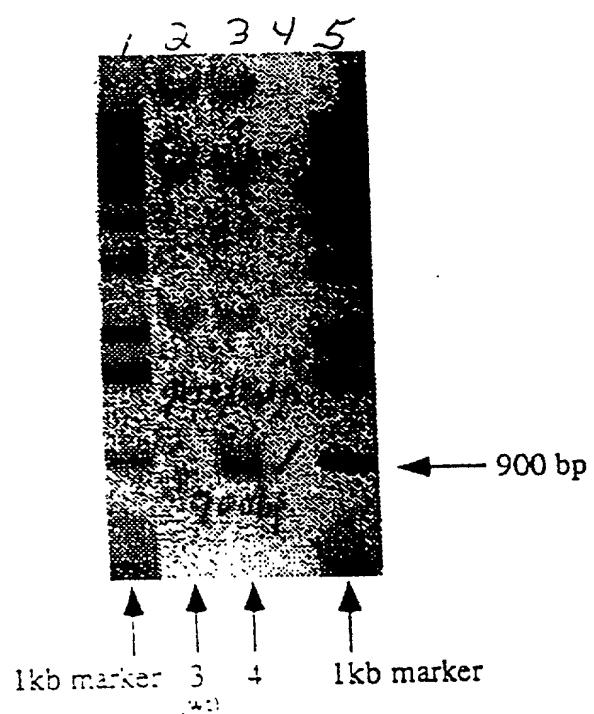


Figure 16

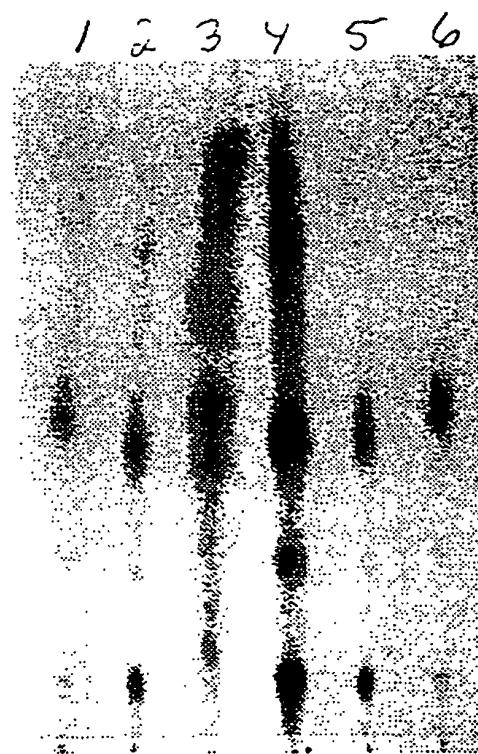


Figure 17

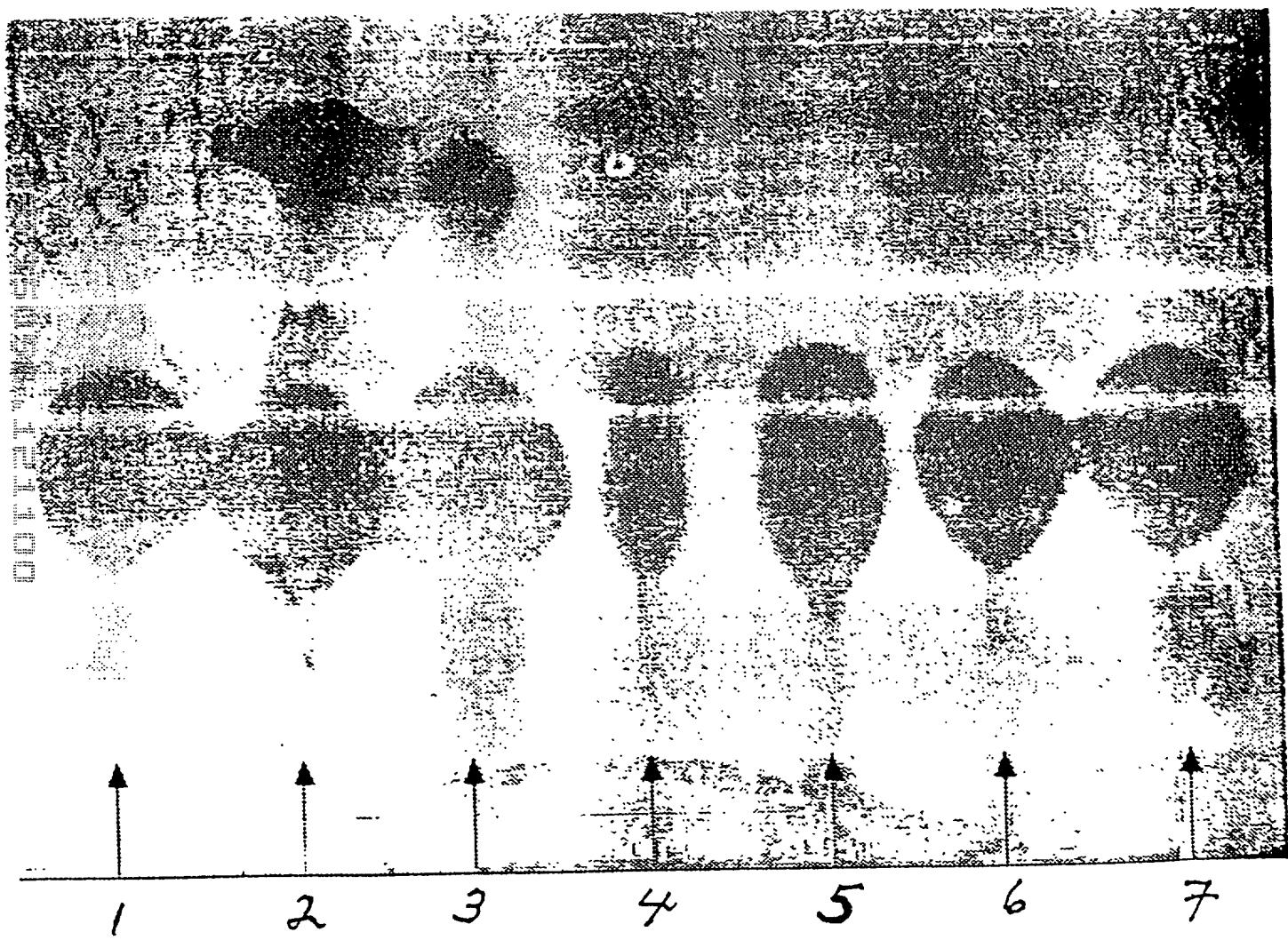


Figure 17  
100

Figure 18

D97250056 in 4000 kb CDS

CCTAGGACGGCAGTCCTGCTACCAGGCAGGGTCCCAGCGTCAGGGCATGGGGCGCGAA	60
P R T A V L L T G Q G S Q R Q G M G R E	20
CTGTACGACCGGTCAACCGGTGTTCGCCGCTCGTACGCGATCTGCGCTCAACTCGAC	120
L Y D R S P V F A A S F D A I C A Q L D	40
GGGCAACTGCCTCGTCCCCCAAGGACGTTCTTCGCCCGAGGGTGGAGACCTCCCTG	180
G Q L P R P L K D V L F A P E G S E D A	60
GCGCTCATCGACCGTACGGTGTACACAGGCGCTCTGTTCGCCGTGGAGACCTCCCTG	240
A L I D R T V F T Q A A L F A V E T S L	80
TTCCGGCTGTTGAGGCCAACGGCCTCGTCCCCGACTACCTCATCGGCCACTCCATCGC	300
F R L F E A H G L V P D Y L I G H S I G	100
GAAGTGACCGCGGCCACCTGGCCGGGTCTCGATCTGGCGGACGCGTGCCTGGTC	360
E V T A A H L A G V L D L A D A C V L V	120
GCCCACCGCGGCCCTGATGCAGTCGGCCCGGGCCGGCGCGATGGCCGCGGTCCAG	420
A H R G R L M Q S A R A G G A M A A V Q	140
GCGAGCGAGGACGAGGTACCGAGGCCCTCGCACCTCGACGATGCGGTTGCCGTGGCC	480
A S E D E V R E A L A T F D D A V A V A	160
GGAGTCAACGGCCCGAACGCCACCGTCTCCGGCGACGAGGACGCGGTGAGCGGCTG	540
G V N G P N A T V V S G D E D A V E R L	180
GTCGCGCGCTGGCGCGAGCAGGGCAGGCGGACGAAGCGGTGCCGGTCAGCCACGCC	600
V A R W R E Q G R R T K R L P V S H A F	200
CACTCGCCGCACATGGACGGGATCGCGACGAGTCGTACCGCGTCTCCGGGCTCACC	660
H S P H M D G I V D E F V T A V S G L T	220
TTCCGCTCCCCGACGATCCGGTCGCTCCAACGTACCGGGACCCCTGCCACCGTCAC	720
F R S P T I P V V S N V T G T L A T V D	240
CAGCTGACCTGCCCGCGTACTGGCACGCCACATCCCGAGGCCGTGCGCTCGCCGAC	780
Q L T S P A Y W A R H I R E A V R F A D	260
GGGGTGCGGTACCTGGAGGGCGAGGGCGTACCGAATGGCTGGAGCTCGGGCCGACGGC	840
G V R Y L E G E G V T E W L E L G P D G	280
GTTCTCGCTGCCCTGGCGAGGACTGCCCTGGCGAAGGAGGCAGGATCGCTCGCGTCCGCC	900
V L V A L V E D C L A K E A G S L A S A	300
CTGCGCAAGGGGGCGAGCGAGCCCCACACCGTGGCGGCCATGGCCCGCGCGGTGCTG	960
L R K G A S E P H T V G A A M A R A V L	320
CGCGGATCCGGCCCCGACTGGCGGGTGTTCGGCGACGGCGGGTCACCTCCG	1020
R G S G P D W A A V F P G A R R V D L P	340
ACGTATGCAT	1030
T Y A	343

Figure 19

PCR oligos:

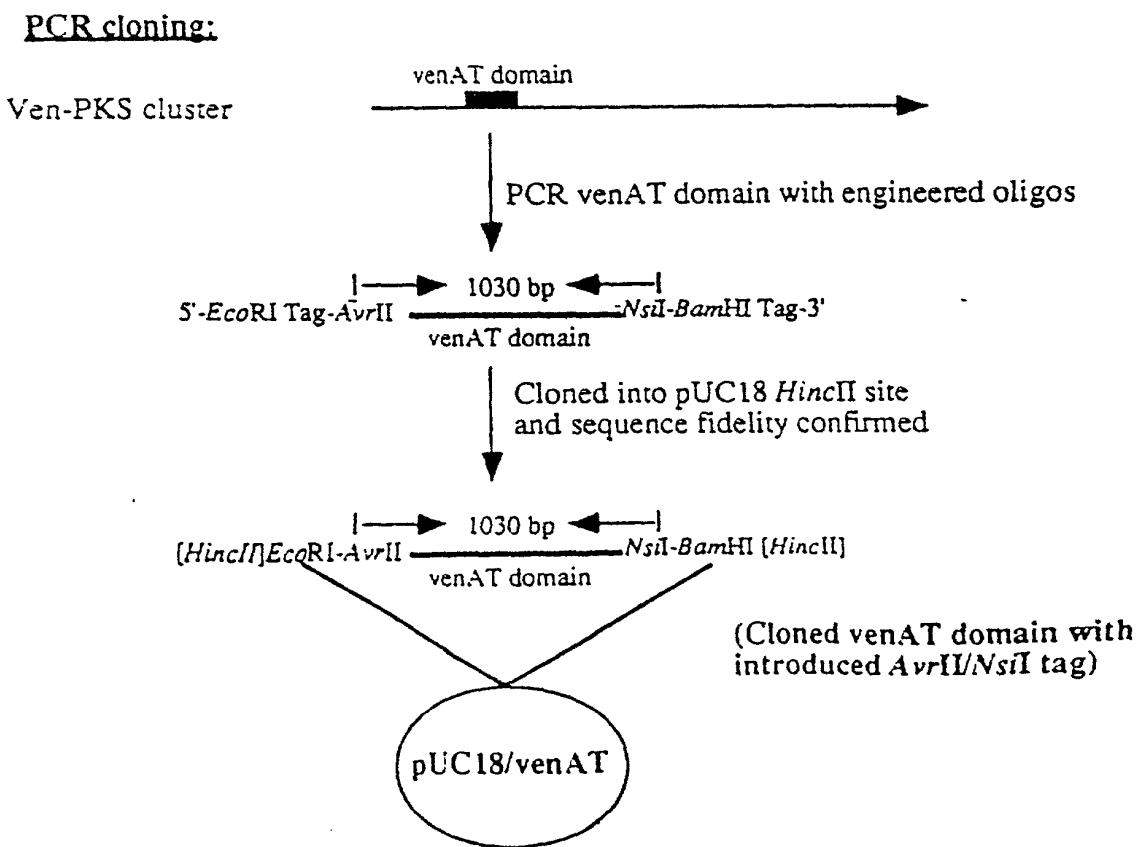
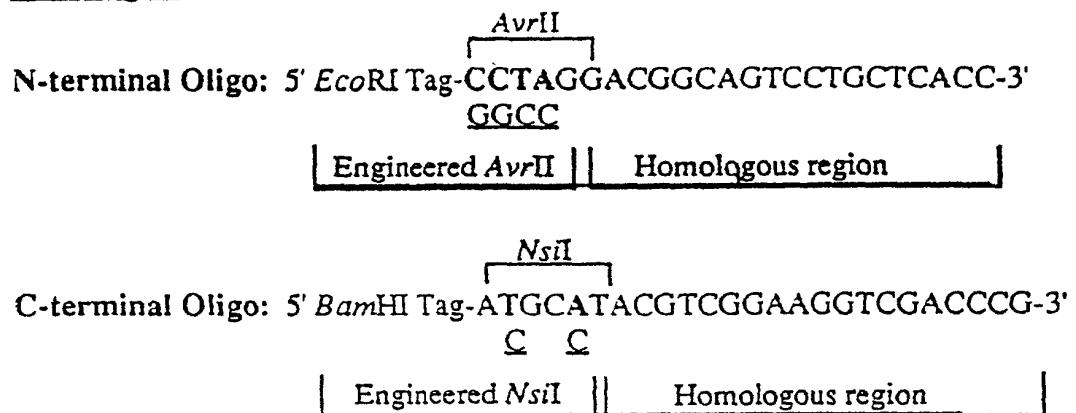


Figure 20

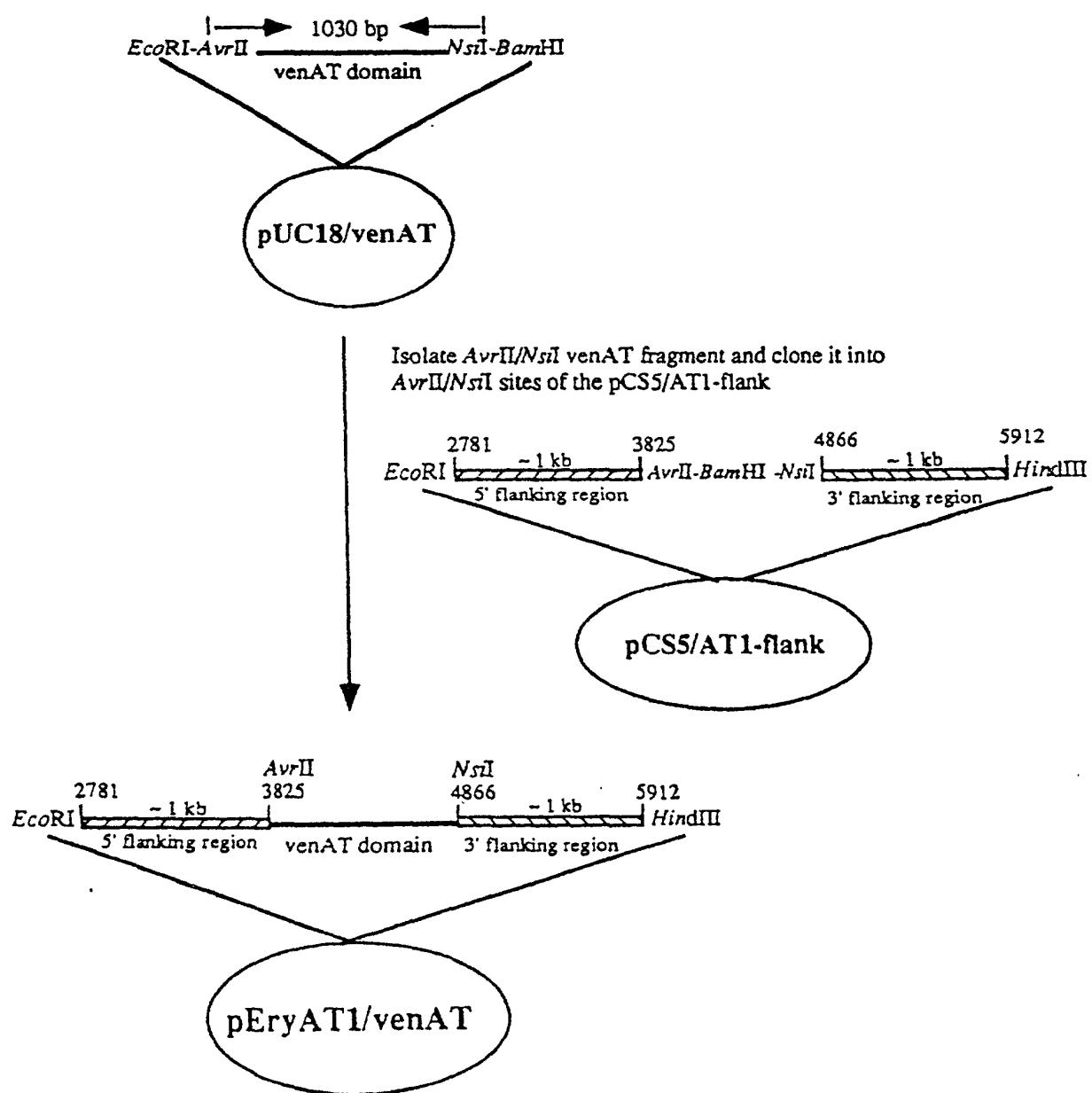


Figure 21

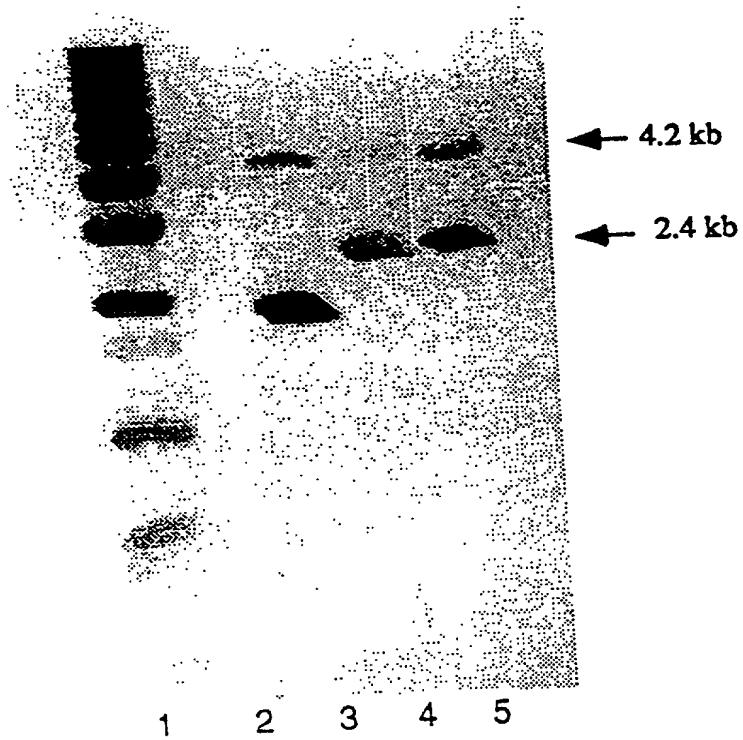


Figure 22

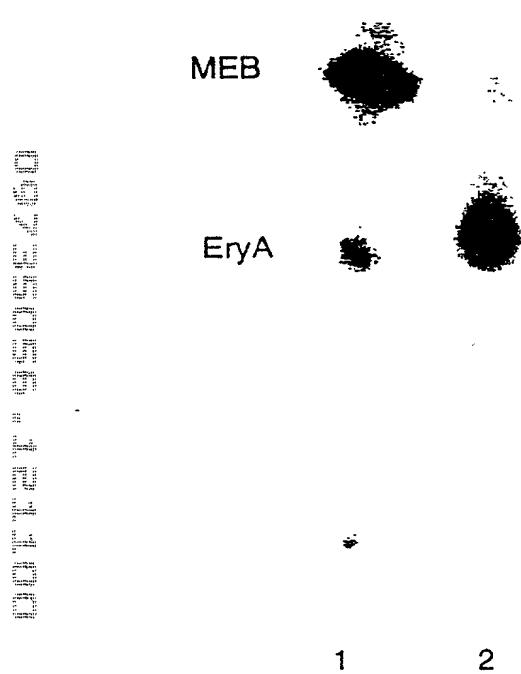


Figure 23

PCR oligos:

N-terminal Oligo: 5' *Eco*RI Tag-CCTAGGGTTGCCTCCTGTCGAC-3'  
GGC C  
 ┌─────────────────┐  
 | Engineered *Avr*II || Homologous region  
 └─────────────────┘

C-terminal Oligo: 5' *Hind*III Tag-ATGCATAGACCGGCAGATCCACCG-3'  
C G  
 ┌─────────────────┐  
 | Engineered *Nsi*I || Homologous region  
 └─────────────────┘

PCR cloning:

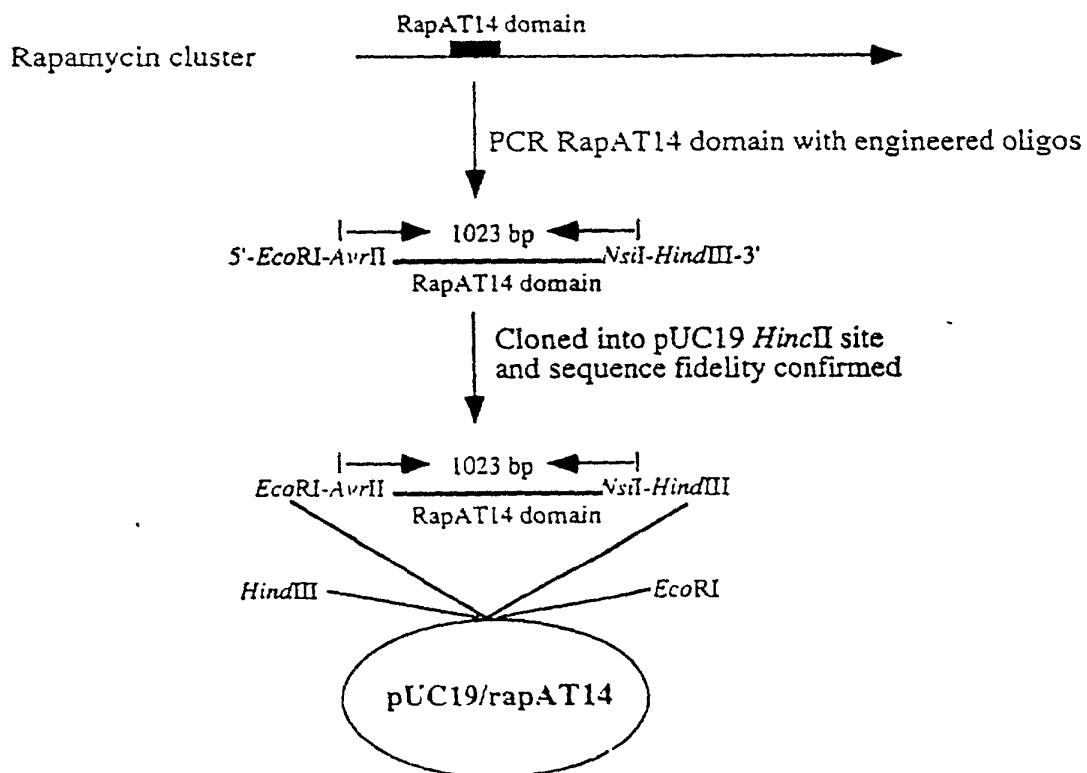


Figure 24

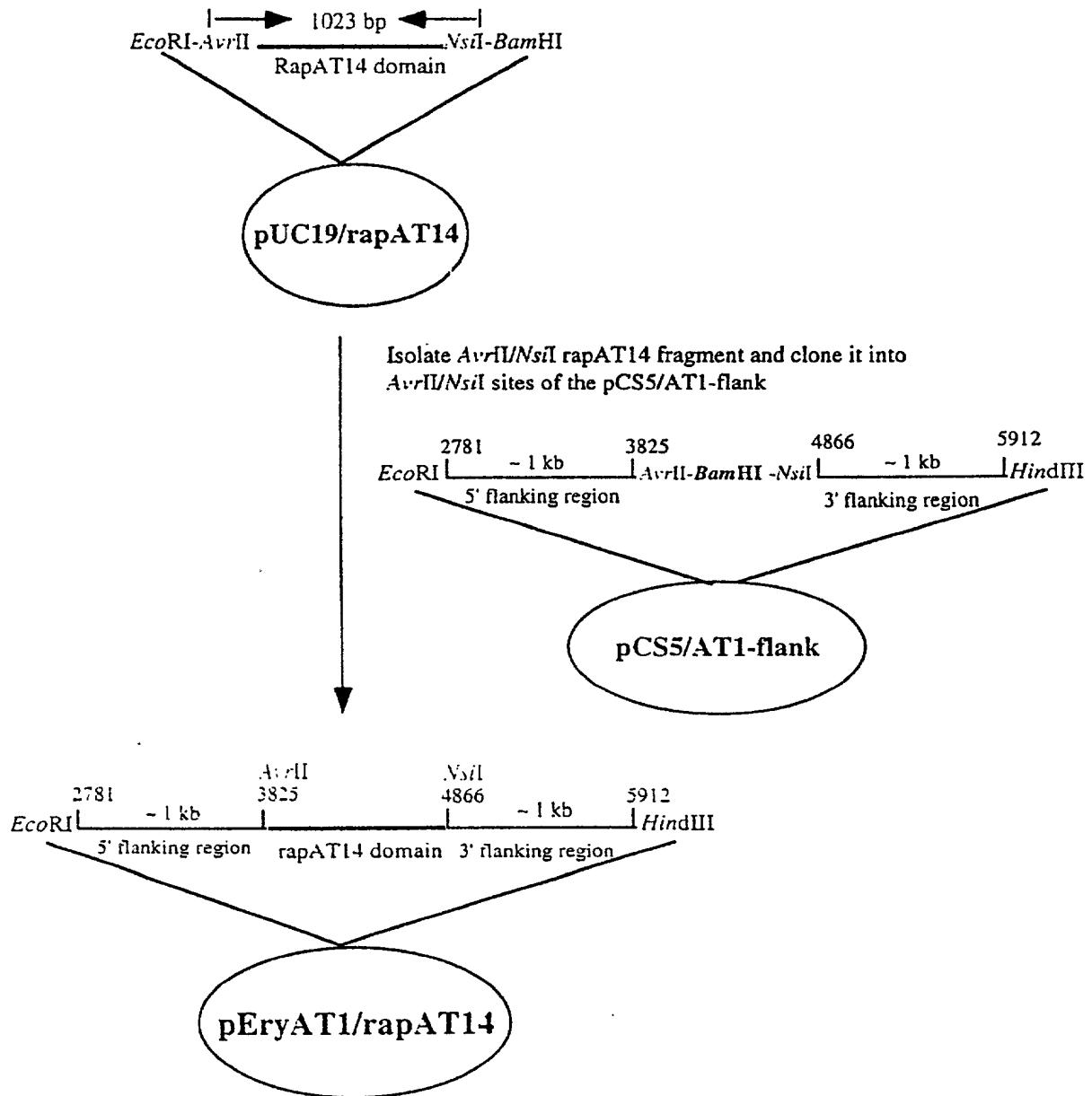


Figure 25

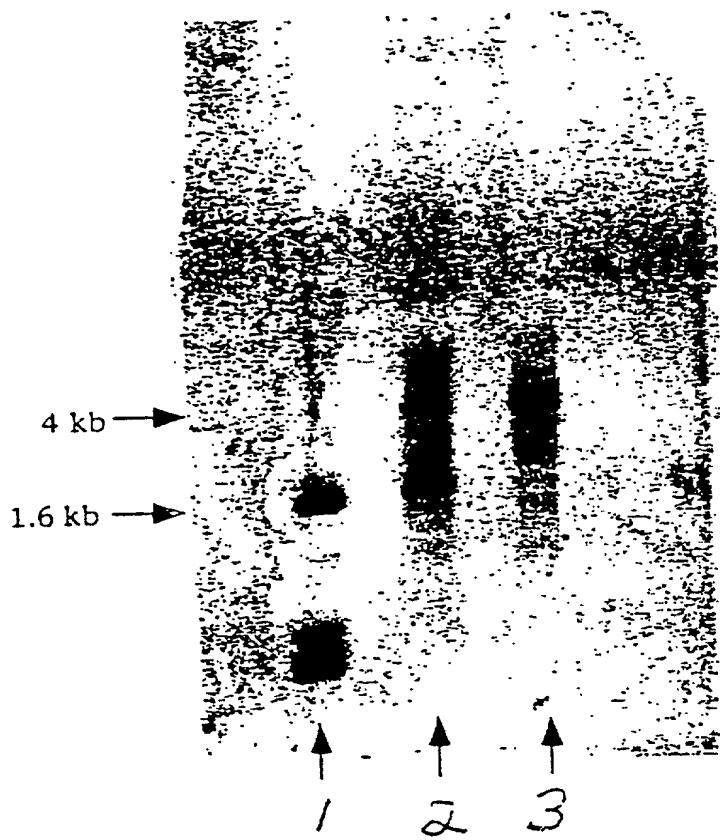


Figure 26



Figure 27

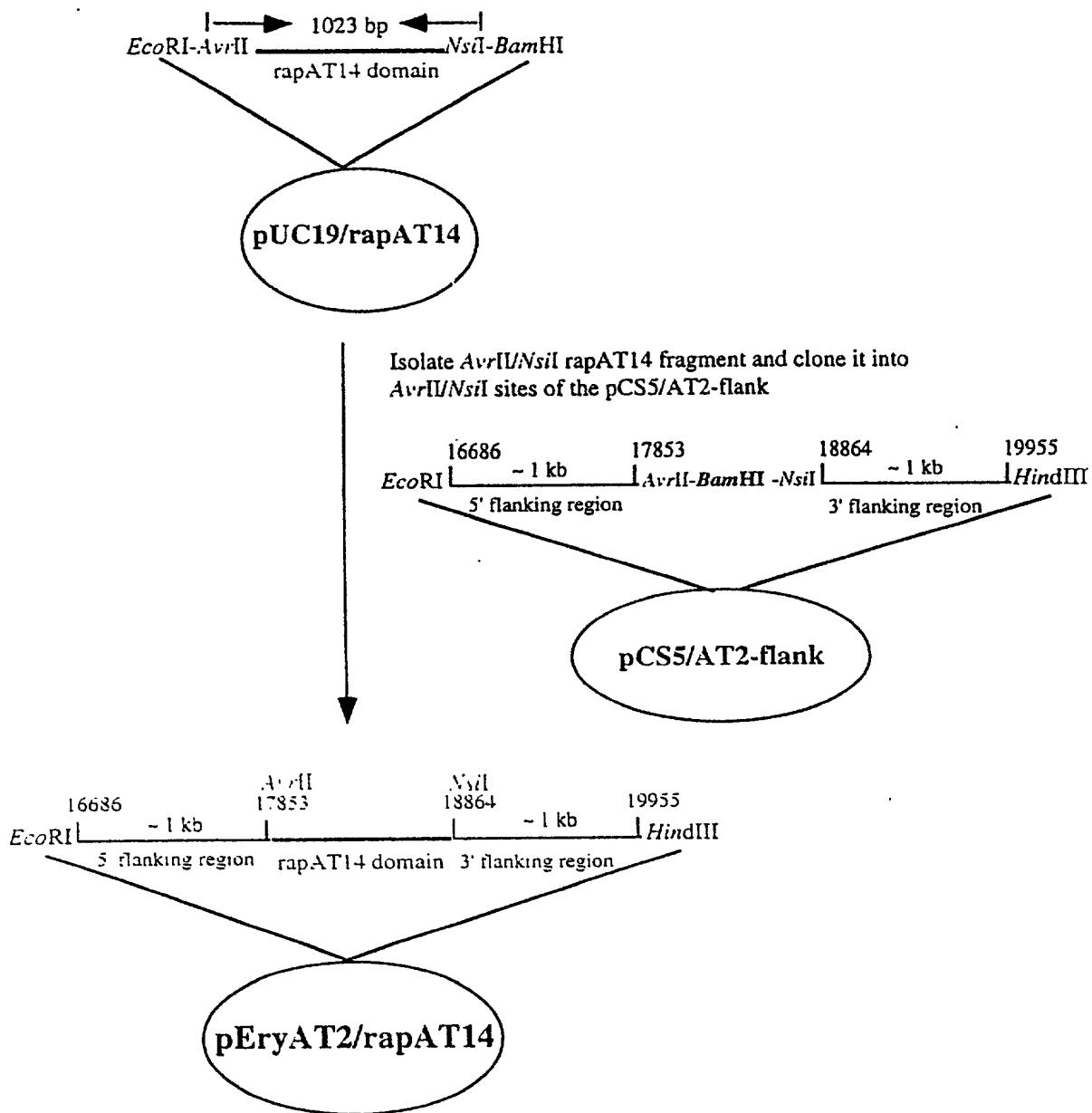
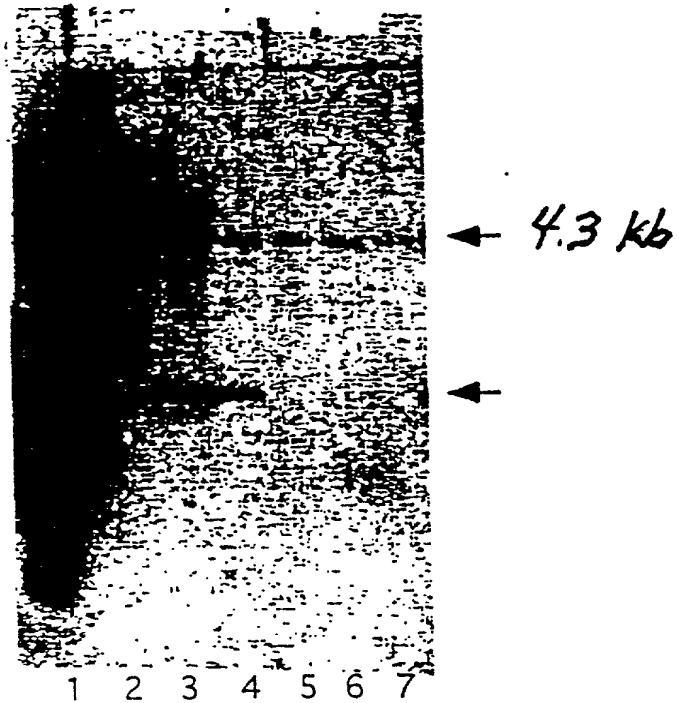


Figure 28



**Figure 29**

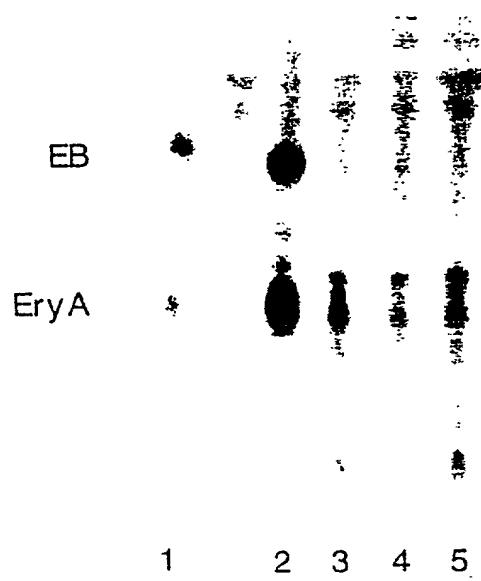


Figure 30

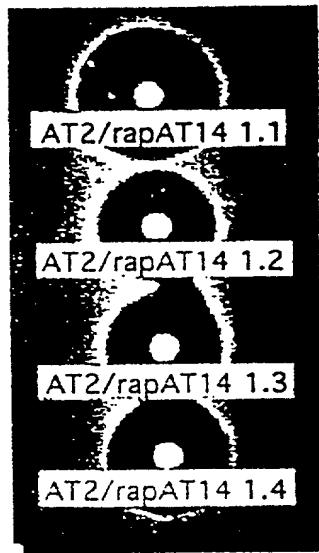


Figure 31

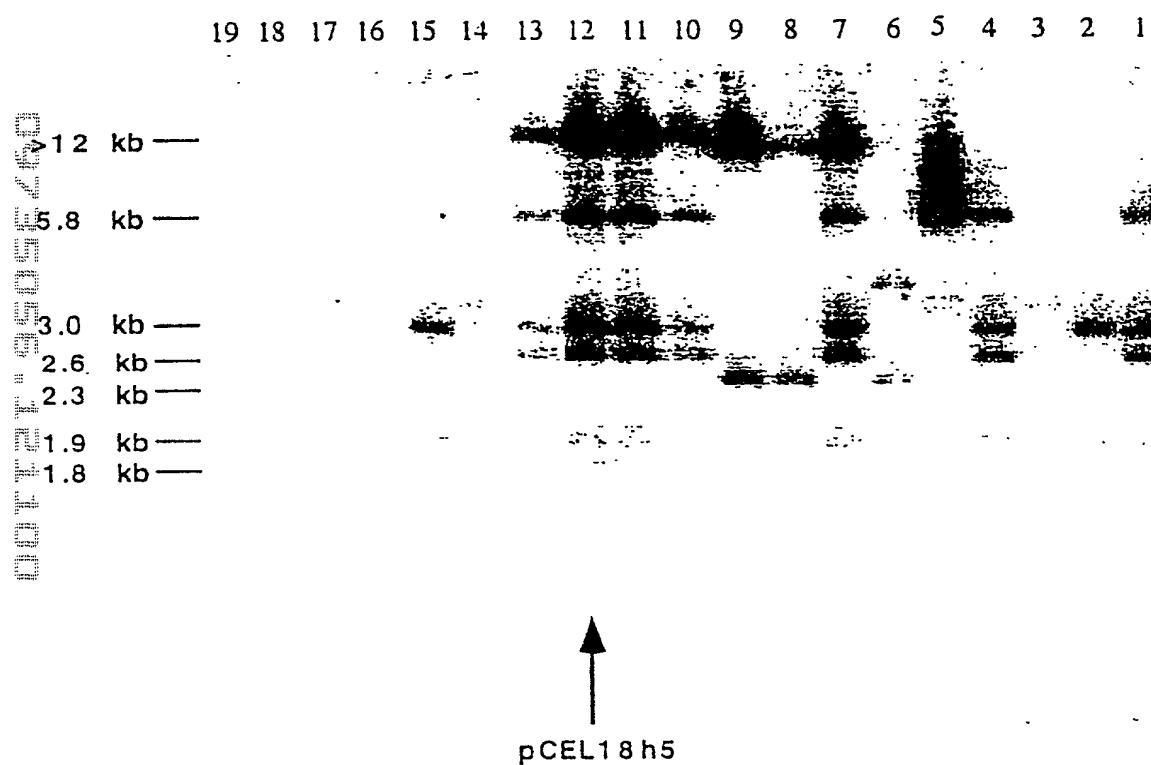


Figure 32

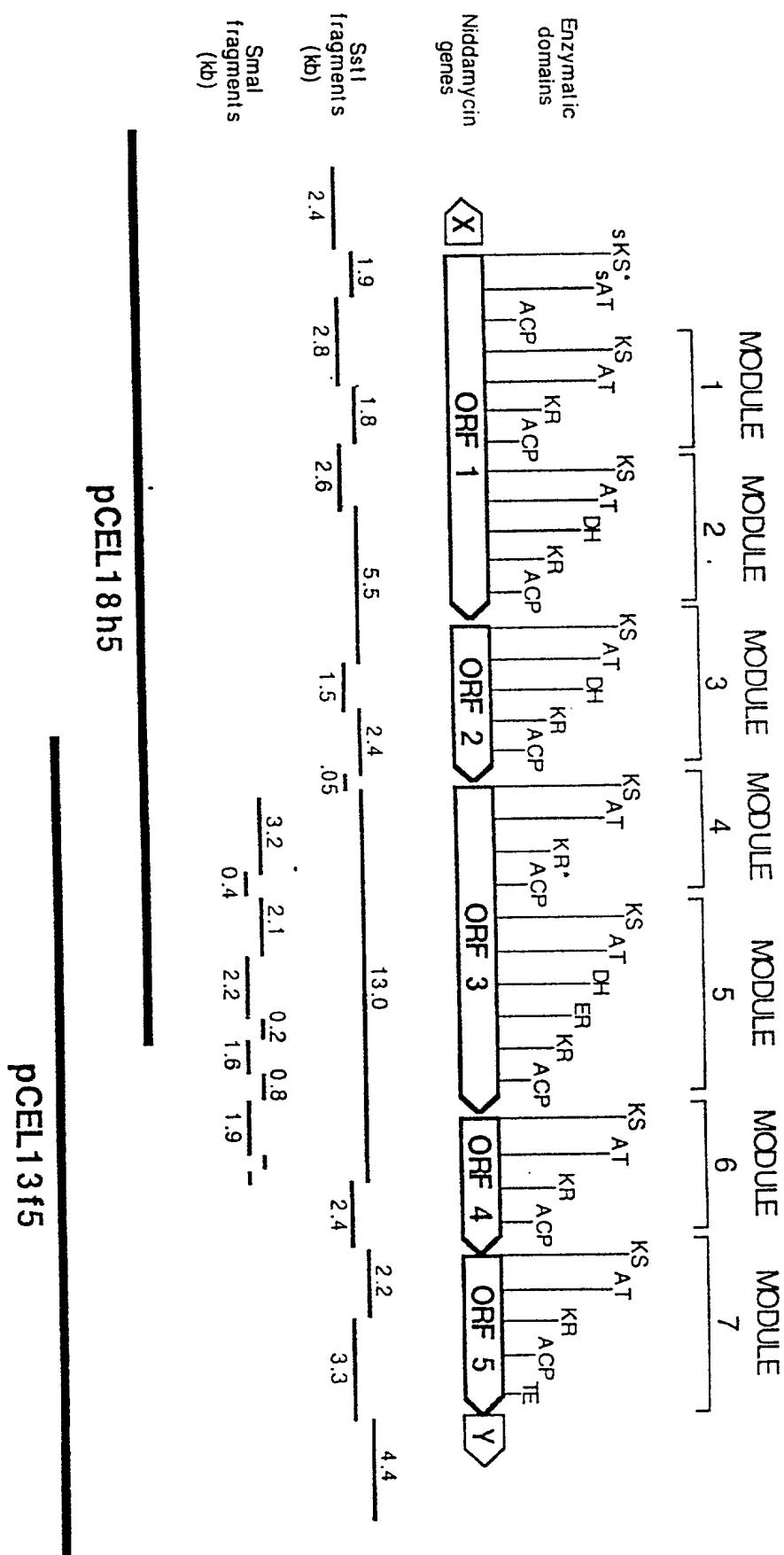


Figure 33

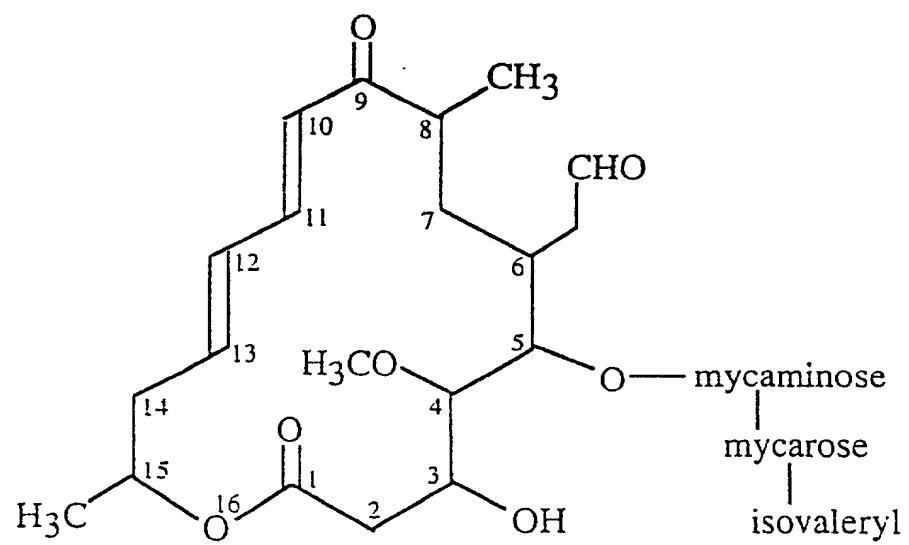


Figure 34

D922055  
M92102

GCCGACCGTGTCTGTTCCCGGCCAGGGCTCGCAGTGGCCGGAATGGCCGAG	60
A D R V V F V F P G Q G S Q W A G M A E	20
GGGCTGCTGGAGCGGTCCGGCGCTTCCGGAGTGCAGGCGACTCGTGCACGCCGCGCTG	120
G L L E R S G A F R S A A D S C D A A L	40
CGGCCGTACCTCGGCTGGTCGGTCTGAGCGTCTGCGCGGGAACCGGACGCCCTCG	180
R P Y L G W S V L S V L R G E P D A P S	60
CTCGACCGGGTCGACGTGAGCCGGTCTGTCACGATGATGGTCTCGCTCGCGCG	240
L D R V D V V Q P V L F T M M V S L A A	80
GTCTGGCGTGCCTGGGGTGGAACCGGCGGCGTCTGGGACTCGCAGGGTGAGATC	300
V W R A L G V E P A A V V G H S Q G E I	100
GCCGCTGCCCATGTCGCCGGTGCCTGTCGCTGGACGACTCGGCCGGATCGTCGCCCTG	360
A A A H V A G A L S L D D S A R I V A L	120
CGCAGTCGGCGTGGCTCGGACTGGCGGGCAAGGGCGGCATGGTGGCGGTGCCGATGCCG	420
R S R A W L G L A G K G G M V A V P M P	140
GCGGAGGAGCTGCGCCCGCGGETGGTACGTGGGGGACCGTCTGGCGTCGCCGCCGTC	480
A E E L R P R L V T W G D R L A V A A V	160
AACAGCCCCGGTTCTGGCCCTCGCAGGGCACCCGGAGGGCGCTGGCCGAACTGGTGGCG	540
N S P G S C A V A G D P E A L A E L V A	180
CTGCTGACCGGTGAGGGGGTGCACGCCCGGGATCCCGGGCTGACACCGCGGGCAC	600
L I T G E G V H A R P I P G V D T A G H	200
TGGCCCGAGCTGGACCCGTTGGCGGCTCATCTGCTGGAGGTGCTGGCCCCGGTGC	660
S P Q V D A L R A H L L E V L A P V A P	220
CGACCGCCGACATCCGTTCTACTCGACGGTGACCGGGGGCTGCTGGACGGCACCGAG	720
R P A D I P F Y S T V T G G L L D G T E	240
CTGGACCGACGTACTGGTACCGCAACATGCGCGAGCCCGTCGAGTTCGAGCGGGCCACA	780
L D A T Y W Y R N M R E P V E F E R A T	260
CGGGCGCTGATCGCCGACGGCACGGACGTCTTCCCTGGAGACGAGCCCGCATCCCATGCTG	840
R A L I A D G H D V F L E T S P H P M L	280
CGCGTGGCGCTGGAGACGGTACCCGACGGACGCCGGCACCGACGGCGGTGCTCGGGACC	900
A V A L E Q T V T D A G T D A A V L G T	300
CTGCCTGCCACGGCGGTCTCGCGCGCTGGCCCTGGCGCTGCGCGCCCTCGCG	960
L R R R H G G P R A L A L A V C R A F A	320
CACGGCGCTGGAGGTGGACCCCGAGGCGGTCTTCGGTCCGGCGCACGGCCCGTGGAGTTG	1020
H G V E V D P E A V F G P G A R P V E L	340
CCACCTATCCG	1032
P T Y P	344

Figure 35

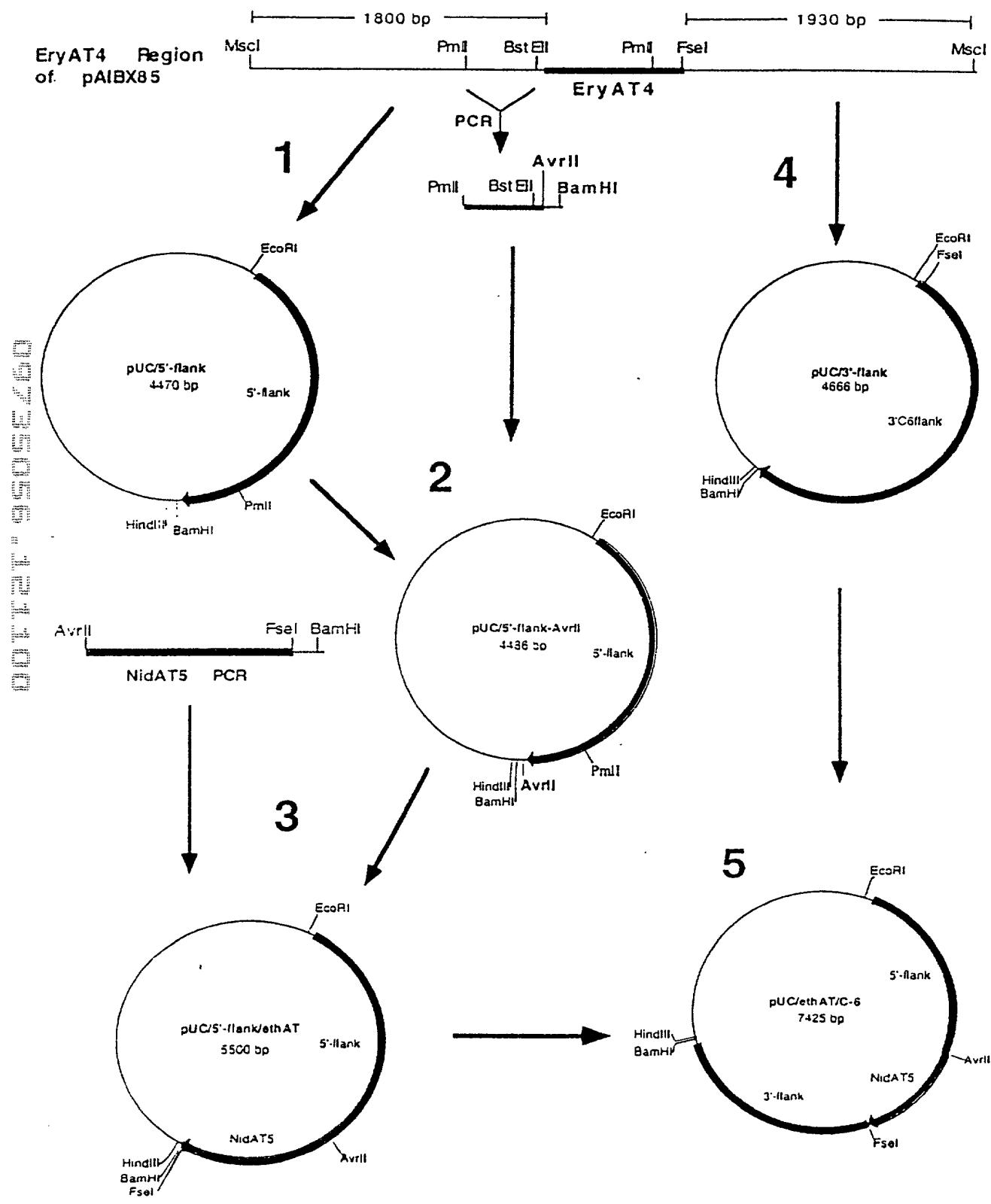


Figure 36

Protein Sequence	S   A   P   R   K   P
Original Sequence	TCCGCGCCGCGCAAGCCG
Altered Sequence	TCCGCGCC <b>TAGGAAGCCG</b>

↓      ↓      ↓  
 TCCGCGCC**TAGGAAGCCG**  
 AvrII site

## PCR Oligos for 5'-flank AvrII site

**N-terminal oligo**    5'-GAGAGAGGAACCAACGCGCACGTGATCGTCGAAGAGGGACCCAGC  
*(SEQ ID NO: 2)*
  
  
**G-terminal oligo**    5'-GAGAGAGGATCCGACCTAGGCGCGGAGGTACCCGGCGCGACGGCG  
*(SEQ ID NO: 3)*

## PCR oligos for NidAT5 fragment

N-Terminal oligo 5'-GAGAGACCTAGGAAGCCGGTGTTCGTGTTCCCCGGCCAGGGCT  
*(SEG 10 NO 23)*

AvrII site

Beginning of NidAT5

C-terminal oligo 5'-GAGAGAGGGATCCGAGGCCGGCGTGCGCCGGACCGAAGACCGCCTC  
*(SEG 10 NO 23)*

BamHI site

Fsel site

3' end of NidAT5

Figure 37

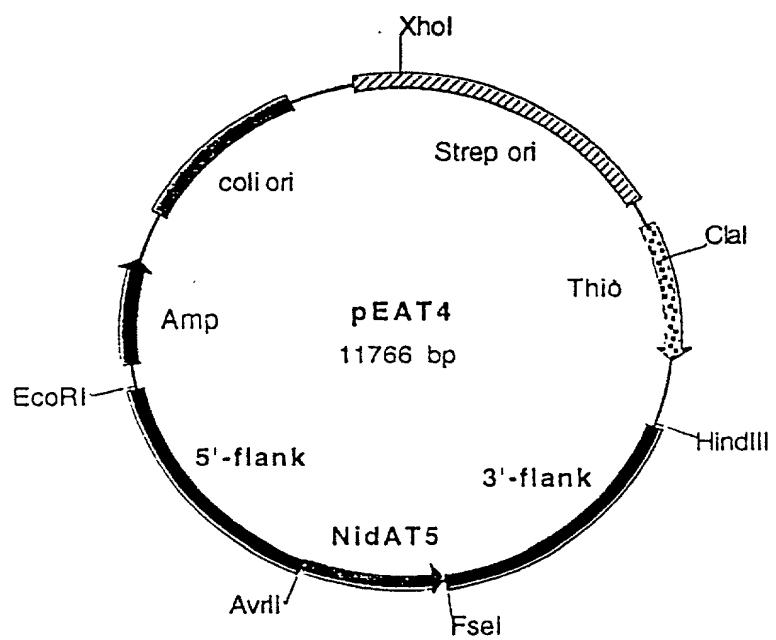


Figure 38

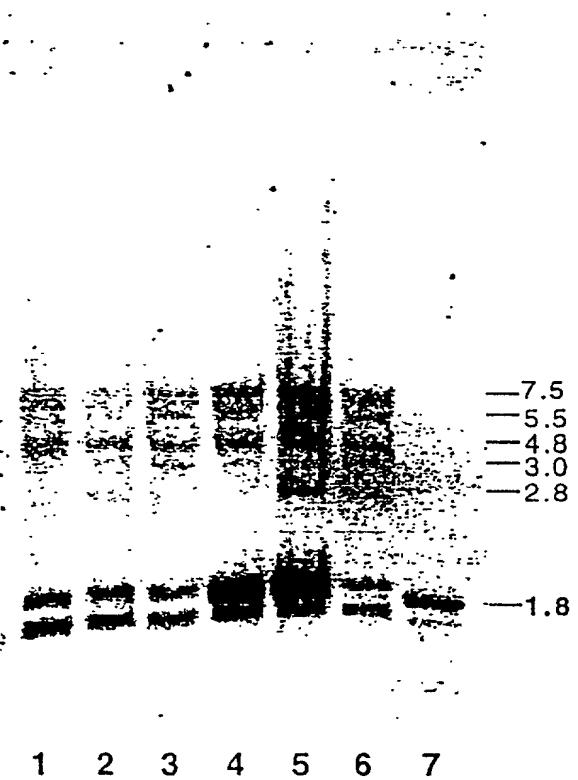


Figure 39

0.02350561.1211.000

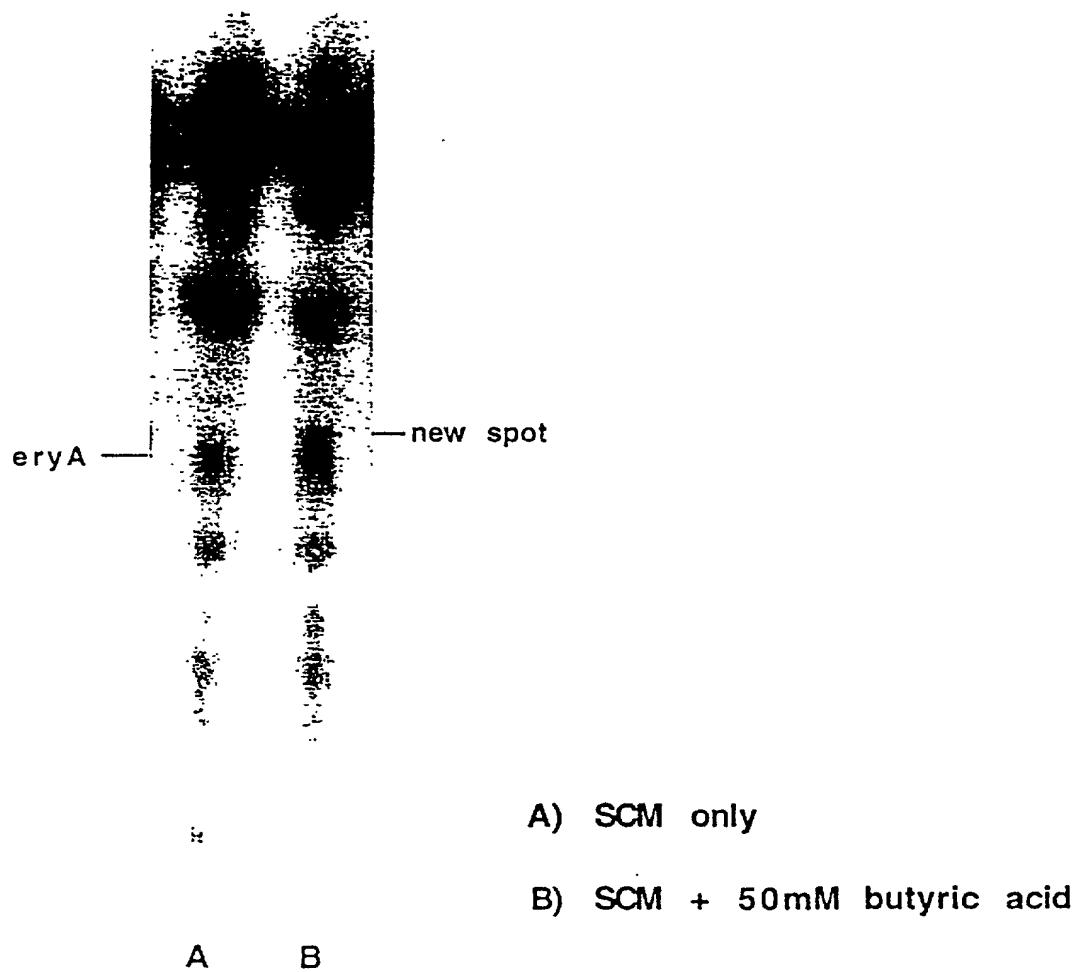
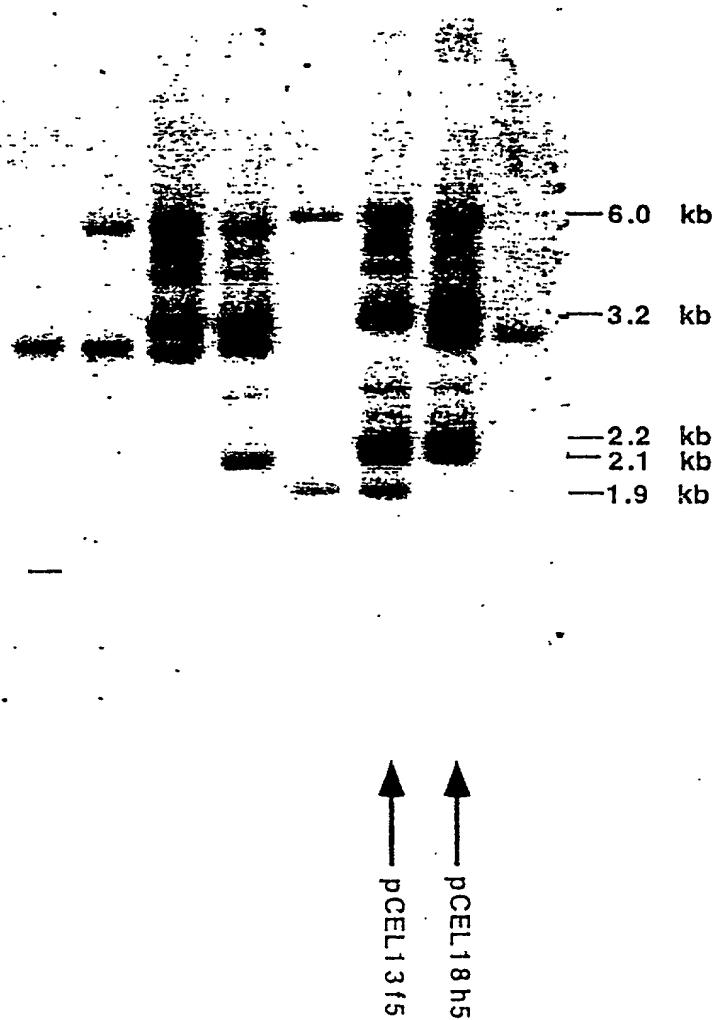


Figure 40



09/25/05 E&B 123 3.0000

Figure 41

CGCGCGCCTGCCCTCGTCTTCCGGGCAGGGCGCCCAGTGGGCGGACTGGGAGCGCGG 60  
 R A P A F V F P G Q G A Q W A G L G A R 20  
 CTCCCTCGGGACTCCCCCGTCTTCGCGCCAGGGCGAGGCATGCGCGCGGGCGCTGGAG 120  
 L L A D S P V F R A R A E A C A R A L E 40  
 CCTCACCTCGACTGGTCGGTCCTCGACGTGCTGGCCGGCCCCGGCACCCCTCCCATC 180  
 P H L D W S V L D V L A G A P G T P P I 60  
 GACCGGGCCGACGTGGTGCAGCCGGTGTTCACCACGATGGTCTCGCTGGCCGCCCTC 240  
 D R A D V V Q P V L F T T M V S L A A L 80  
 TGGGAGGCCACGGGTGCGGCCGGCCGGTGTGGCCACTCCAGGGCGAGGTGGCC 300  
 W E A H G V R P A A V V G H S Q G E V A 100  
 GCAGCGCTGCCGGTGGCCGGCTGCGCTGGACGACGCTGCCCTGGTATGCCGGACGC 360  
 A A C V A G A L S L D D A A L V I A G R 120  
 AGCAGGCTGTGGGGGGGGCTGGCCGGGAACGGCGGGATGCTCGCGGTGATGGCTCCGGCC 420  
 S R L W G R L A G N G G M L A V M A P A 140  
 GAGCGGATCCGTGAGCTGCTCGAACCATGGCGGAGCGGATTTCGGTGGCGGGTCAAT 480  
 E R I R E L L E P W R Q R I S V A A V N 160  
 GGCCCCGCCTCGGTACCGTCTCCGGTGACCGCTCGCGCTGGAGGAGTTGGCGCGCGG 540  
 G P A S V T V S G D A L A L E E F G A R 180  
 CTCTCCGCCAGGGGGTGCTGCGCTGGCCGCTGCCGGCGTCACTTCGCCGGCCACTCG 600  
 L S A E G V L R W P L P G V D F A G H S 200  
 CCGCAGGTGGAGGAGTCCGCGCTGAGCTCTGGACCTGCTCTCCGGCGTACGGCCGGCT 660  
 P Q V E E F R A E L L D L L S G V R P A 220  
 CCTTCGGGATACTTCTTCTCCACCGTGACGGGGTCTTGCAGGGGACAGCTG 720  
 P S R I P F F S T V T A G P C G G D Q L 240  
 GACGGGGCGTACTGGTACCGAACACCGCGAACCCGTGGAGTTCGACGCCACGGTCCGG 780  
 D G A Y W Y R N T R E P V E F D A T V R 260  
 GCGCTGCTGGTGGGGCCATCACAGTCATCGAGGTGGTCCGATCCGCTGCTAAC 840  
 A L L R A G H H T F I E V G P H P L L N 280  
 GCCGCGATCGACGAGATCGCAGCGAACGGGGTAGCGGCCACGGCCCTGCATACGCTC 900  
 A A I D E I A A D E G V A A T A L H T L 300  
 CAGCGGGGGCGCTGGCGGCCCTGACCGCGTGGCAACCGGGTGGCGCCGCTTCCGCGC 960  
 Q R G A G G L D R V R N A V G A A F A H 320  
 GGTGTCCGGGTCGACTGGAACGCCCTGTTGAGGGCACCGGTGGCGCAGGGTGCCGCTT 1020  
 G V R V D W N A L F E G T G A R R V P L 340  
 CCCTCGTACGCCCTTC 1035  
 P S Y A F 345

Figure 42

### PCR oligos:

AvrII

N-terminal Oligo: 5' EcoRI Tag-CCTAGGGTGCCTCGTCTTCCGGGCAAGG-3'  
GCGC CCT

The diagram illustrates the C-terminal Oligo sequence: 5' *Bg*II Tag-ATGCATACGAGGGAAGCGGCACCCTGC-3'. The sequence is divided into two regions: 'Engineered *Bg*II and Val codon' (containing the BglII site 'ATGC') and 'Homologous region' (containing 'Tag-'). Below the sequence, two *Nsi*I restriction sites are indicated by brackets above the sequence, with the nucleotides 'G G' underlined.

### **PCR cloning:**

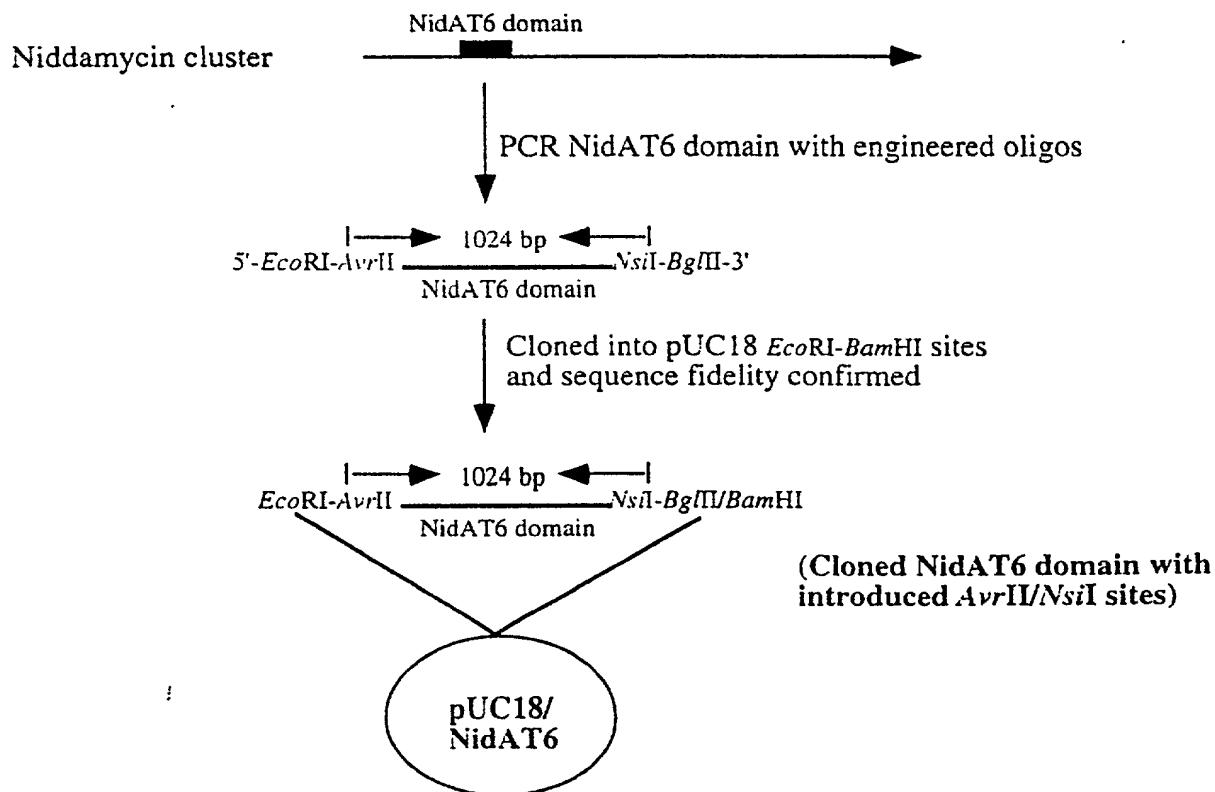


Figure 43

